

June 28, 2016

REV. 1



gel.com

June 27, 2016

Mr. Scot Fitzgerald
CH2MHill Plateau Remediation Company
MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352

Re: CHPRC SAF W16-003
Work Order: 392828
SDG: GEL392828

Dear Mr. Fitzgerald:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on March 09, 2016. This revised data report has been prepared and reviewed in accordance with GEL's standard operating procedures. Per change order, this package was revised to correct the Appedix IX Volatiles reporting list.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4505.

Sincerely,

A handwritten signature in black ink that reads "Heather Shaffer".

Heather Shaffer
Project Manager

Purchase Order: 300071JDBA
Chain of Custody: W16-003-053, W16-003-054, W16-003-055, W16-003-058 and W16-003-059
Enclosures



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Sample Issue Resolution

SAMPLE ISSUE RESOLUTION	SIR NUM	SIR16-254
	REV NUM	0
	DATE INITIATED	3/17/2016

SAMPLE EVENT INFORMATION**SAF NUM(S)** W16-003**OPERABLE UNIT(S)****PROJECT(S)** RCRA16**SAMPLE EVENT TITLE(S)** RCRA16**LABORATORY** GEL Laboratories, LLC**SAMPLING INFORMATION****NUMBER OF SAMPLES** 5**SAMPLE NUMBERS** B34B45, B34B46, B34B57, B34B79, B34B80**SAMPLE MATRIX** WATER**COLLECTION DATE** 3/8/2016 - 3/8/2016**SDG NUM** GEL392828**ISSUE BACKGROUND****CLASS** Laboratory Issue**TYPE** Quality Control Failure

DESCRIPTION For Pesticide batch analysis on the above listed SDGs, the LCS did not meet the spike recovery acceptance limits on both analytical columns - 1203505546 (LCS) Aldrin [56* (70.0%-130.0%)] and Aldrin [62* (70.0%-130.0%)]. The batch was re-extracted. The following samples failed to meet acceptance criteria for surrogate recovery and were scheduled for re-extraction: 392828007 (B34B79) and 392828010 (B34B80).

On the re-extraction, The LCS did not meet the spike recovery acceptance limits with a positive bias. As target analytes were not detected in the associated samples, the data were not adversely impacted - 1203507452 (LCS) Dieldrin [131* (70.0%-130.0%)], Endosulfan sulfate [135* (70.0%-130.0%)], Endosulfan sulfate [151* (70.0%-130.0%)], Endrin [148* (70.0%-130.0%)], Endrin ketone [131* (70.0%-130.0%)], Endrin ketone [135* (70.0%-130.0%)] and Methoxychlor [132* (70.0%-130.0%)].

The following samples were re-extracted out of holding:
 392690001 (B34B65) [Received 08-MAR-16, within holding, prepped 15-MAR-16, out of holding 14-MAR-16].
 392690003 (B34B77) [Received 08-MAR-16, within holding, prepped 15-MAR-16, out of holding 14-MAR-16].

DISPOSITION**DESCRIPTION** Proposed resolution: Please provide the lab instruction on which set of data to report.**JUSTIFICATION** Final Disposition: Report data from first run (within hold time). Note excursions in narrative and also note that the rerun outside of hold time (with high bias) returned non-detects.

SUBMITTED BY: Heather Shaffer GEL DATE: 03/17/2016

ACCEPTED BY: Scot Fitzgerald DATE: 03/17/2016

Case Narrative

Per change order, this package was revised to correct the Appedix IX Volatiles reporting list.

**General Narrative
for
CH2MHill Plateau Remediation Company
CHPRC SAF W16-003
SDG: GEL392828**

June 27, 2016

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary

Sample receipt

The sample(s) arrived at GEL Laboratories, LLC, Charleston, South Carolina on March 09, 2016, for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. The client was contacted regarding a Pesticide QC issue, please see the enclosed SIR.

Items of Note All efforts were made by the lab to meet any short hold times. Samples that were analyzed outside of the initial hold time but still within 2X hold time will be noted in the lab case narrative and DER.

Sample Identification

The laboratory received the following samples:

Laboratory Identification	Sample Description
392828001	B34B45
392828002	B34TF2
392828003	B34B46
392828004	B34TF3
392828005	B34B57
392828006	B34TF5
392828007	B34B79
392828008	B34TH0
392828009	B34TH1
392828010	B34B80

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package

The enclosed data package contains the following sections: General Narrative, Chain of Custody and Supporting Documentation, and data from the following fractions: GC Semivolatile Herbicide, GC Semivolatile PCB, GC Semivolatile Pesticide, GC/MS Semivolatile, GC/MS Volatile, General Chemistry and Metals.

We certify that this package is in compliance with the SOW, both technically and for completeness, including a full description of, explanation of, and corrective actions for, any and all deviations, from either the analyses requested or the case narrative requested. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager (or designee) and the laboratory's client services representative as verified by their signatures on this report.



Heather Shaffer
Project Manager

Technical Case Narrative
CH2MHill Plateau Remediation Company (CPRC)
SDG #: GEL392828
Work Order #: 392828

GC/MS Volatile

Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

Continuing Calibration Verification Requirements

The calibration verification standard requirements were not all met for samples. Chloroethane was above the 20%D/drift at 21.1% in the daily CCV analyzed on 3/10/16. There were no positive results for any of the analytes that were outside the calibration criteria. The results are reported.

Quality Control (QC) Information

Matrix Spike/Matrix Spike Duplicate Recovery Statement

The spike and/or spike duplicate (See Below) recoveries were not all within the acceptance limits. The recoveries were similar. It is believed possible matrix interference has been demonstrated.

Sample	Analyte	Value
1203505539 (B34B45PS)	Acetone	64* (70%-130%)
1203505540 (B34B45PSD)	Acetone	59* (70%-130%)

GC/MS Semivolatile

Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

CCV Requirements

All Calibration Verification Standards (CCV) did not meet the acceptance criteria as outlined in Method 8270D for samples 392828001 (B34B45), 392828003 (B34B46), 392828005 (B34B57), 392828007 (B34B79) and 392828010 (B34B80) and the associated QC. However, the method allows for a designated number of outliers dependent on the requested analyte list. This SDG satisfied the 8270D outlier acceptance criteria. If required, a CRDL was analyzed after the CCVs to demonstrate that there is adequate sensitivity to detect the failed

compounds at the applicable lower quantitation limit. Target analyte Methapyrilene has a positive bias in the CCV.

Quality Control (QC) Information

Surrogate Recoveries

QC and client samples (See Below) did not meet 70%-130% surrogate recovery acceptance criteria per CPRC request. All surrogates were recovered within GEL SPC limits. The data were reported.

Sample	Analyte	Value
1203504898 (MB)	2-Fluorophenol	46* (70%-130%)
	Phenol-d5	29* (70%-130%)
1203504899 (LCS)	2-Fluorophenol	46* (70%-130%)
	Phenol-d5	30* (70%-130%)
1203504904 (B34B46MS)	2-Fluorophenol	53* (70%-130%)
	Phenol-d5	41* (70%-130%)
1203504905 (B34B46MSD)	2-Fluorophenol	50* (70%-130%)
	Nitrobenzene-d5	69* (70%-130%)
	Phenol-d5	38* (70%-130%)
392828001 (B34B45)	2-Fluorophenol	34* (70%-130%)
	Nitrobenzene-d5	68* (70%-130%)
	Phenol-d5	21* (70%-130%)
392828003 (B34B46)	2-Fluorophenol	38* (70%-130%)
	Phenol-d5	23* (70%-130%)
392828005 (B34B57)	2-Fluorophenol	37* (70%-130%)
	Phenol-d5	22* (70%-130%)
392828007 (B34B79)	2-Fluorophenol	30* (70%-130%)
	Nitrobenzene-d5	64* (70%-130%)
	Phenol-d5	18* (70%-130%)
392828010 (B34B80)	2-Fluorophenol	37* (70%-130%)
	Phenol-d5	22* (70%-130%)

Laboratory Control Sample (LCS) Recovery

The LCS (See Below) did not meet 70%-130% spike recovery acceptance criteria per CPRC request for some target analytes. Each of these analytes were recovered within GEL's SPC limits. The data were reported.

Sample	Analyte	Value
1203504899 (LCS)	Several	See applicable report

MS/MSD Relative Percent Difference (RPD) Statement

The relative percent difference (RPD) between the MS and MSD (See Below) did not meet acceptance limits. As the individual MS and MSD recoveries were within the acceptance limits, the failures had no adverse impact on the reported sample data.

Sample	Analyte	Value
1203504904MS and 1203504905MSD (B34B46)	Dibenzo(a,h)anthracene and Indeno(1,2,3-cd)pyrene	22* (0%-20%)

GC Semivolatile Pesticide

Organochlorine Pesticides and Chlorinated Hydrocarbons

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

Continuing Calibration Verification (CCV) Requirements

The associated calibration verification standards (ICV or CCV) did not meet the acceptance criteria. One of the target analytes failed acceptance criteria with positive bias in the standard bracketing samples 392828007 (B34B79) and 392828010 (B34B80). The target analytes were not detected above the PQL in the samples; therefore, the non-compliance had no adverse effects on the data.

Quality Control (QC) Information

Surrogate Recoveries

Samples (See Below) failed to meet acceptance criteria for surrogate recovery and were re-extracted. The client requested the initial data reported. The LCS in the re-extract batch failed several target analytes above the acceptance limit. All surrogates were within the 70-130% limits and target analytes were not detected in the samples.

Sample	Analyte	Value
392828007 (B34B79)	4cmx	69* (70%-130%)
392828010 (B34B80)	4cmx	7* (70.0%-130.0%)
	4cmx	8* (70.0%-130.0%)
	Decachlorobiphenyl	14* (70.0%-130.0%)
	Decachlorobiphenyl	4* (70.0%-130.0%)

Laboratory Control Sample (LCS/LCSD) Recovery

The LCS and/or LCSD (See Below) did not meet the spike recovery acceptance limits on both analytical columns. The batch was re-extracted. The client requested the initial data in this batch (1551216) reported. The LCS in the re-extract batch failed several target analytes above the acceptance limit. All surrogates were within the 70-130% limits and target analytes were not detected in the samples.

Sample	Analyte	Value
1203505546 (LCS)	Aldrin	56* (70.0%-130.0%)

Technical Information**Sample Re-extraction/Re-analysis**

Samples 392828001 (B34B45), 392828003 (B34B46), 392828005 (B34B57), 392828007 (B34B79) and 392828010 (B34B80) were re-extracted due to the LCS failing Aldrin recovery. The client requested the initial data in this batch (1551216) reported.

Miscellaneous Information**Additional Comments**

The Toxaphene and/or Chlordane standards were analyzed for this SDG as a retention time marker and pattern reference. A five-point calibration curve and calibration verification standard forms were not submitted in the data package since Toxaphene and/or Chlordane were not detected in the client samples.

GC Semivolatile PCB**Analysis of Polychlorinated Biphenyls by ECD**

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information**Surrogate Recoveries**

Samples (See Below) recovered below the client specified acceptance limits of 70-130% but within the laboratory SPC limits for the surrogate recovery.

Sample	Analyte	Value
1203511861 (MB)	4cmx	58* (70%-130%)
	4cmx	67* (70%-130%)
1203511862 (LCS)	4cmx	58* (70%-130%)
	4cmx	66* (70%-130%)
1203511865 (B34B79MS)	4cmx	58* (70%-130%)
	4cmx	68* (70%-130%)
1203511866 (B34B79MSD)	4cmx	54* (70%-130%)
	4cmx	63* (70%-130%)
392828001 (B34B45)	4cmx	60* (70%-130%)
	Decachlorobiphenyl	67* (70%-130%)
	Decachlorobiphenyl	68* (70%-130%)
392828003 (B34B46)	4cmx	62* (70%-130%)
392828005 (B34B57)	4cmx	53* (70%-130%)
	4cmx	62* (70%-130%)

	Decachlorobiphenyl	66* (70%-130%)
	Decachlorobiphenyl	67* (70%-130%)
392828007 (B34B79)	4cmx	51* (70%-130%)
	4cmx	59* (70%-130%)
	Decachlorobiphenyl	62* (70%-130%)
392828010 (B34B80)	4cmx	55* (70%-130%)
	4cmx	65* (70%-130%)
	Decachlorobiphenyl	69* (70%-130%)

Technical Information

Preparation/Analytical Method Verification

All samples and QC in this batch were cleaned using alumina in order to remove oil and other high molecular weight interferences. All samples and QC in this batch were cleaned with activated copper in order to remove sulfur.

Miscellaneous Information

Manual integrations

Sample 1203511862 (LCS) required manual integration to correctly position the baseline as set in the calibration standard injections.

Additional Comments

The column 2 has been chosen as the primary column. The data are reported from the column 2 for all samples in this batch.

GC Semivolatile Herbicide

Analysis of Chlorophenoxy Acid Herbicides by ECD

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Laboratory Control Sample (LCS) Recovery

The LCS/LCSD (See Below) did not meet the CPRC spike recovery acceptance criteria for Dinoseb. Since the spike recoveries were within GEL spike recovery acceptance criteria, the data were reported.

Sample	Analyte	Value
1203507718 (LCS)	Dinoseb	49* (70%-130%)
1203507723 (LCSD)	Dinoseb	53* (70%-130%)

LCS/LCSD Relative Percent Difference (RPD) Statement

The LCS/LCSD RPD did not meet the acceptance criteria. Since the individual recoveries were within the acceptance limits in the LCS and LCSD, the non-conformance had no adverse impact on the reported data.

Sample	Analyte	Value
1203507718 (LCS) and 1203507723 (LCSD)	2,4-DB	25* (0%-20%)

Metals

Determination of Metals by ICP

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Determination of Metals by ICP-MS

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Method Blank (MB) Statement

The method blanks (MB) analyzed with this SDG met the exception criteria with the exception of antimony, arsenic and chromium. In instances where there were positive hits in the method blank, the results were evaluated and appropriately flagged on the data.

Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

General Chemistry

Cyanide, Total

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Alkalinity

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information**Method Blank (MB) Statement**

The alkalinity method blank concentration exceeded the reporting limit. If applicable, the data is flagged accordingly.

Sample	Analyte	Value
1203503789 (MB)	Alkalinity, Total as CaCO ₃	1.04 * 10 > 0

Sulfide, Total

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Chain of Custody and Supporting Documentation

88165
 C.O.C.# **W16-003-053**
 Page 1 of 1

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

392828

Telephone No. 509-376-4650
 Purchase Order/Charge Code 300071
 Ice Chest No. 605-338
 Bill of Lading/Air Bill No. 175824960636
 Offsite Property No. 0419

Contact/Requester Karen Waters-Husted
 Sampling Origin Hanford Site
 Logbook No. HNF-N-506 8183
 Method of Shipment Commercial Carrier
 Priority: 30 Days **PRIORITY**

Collector K.C. Patterson/CHPRC
 SAF No. W16-003
 Project Title RCRA, MARCH 2016
 Shipped To (Lab) GEL Laboratories, LLC
 Protocol RCRA

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1

SPECIAL INSTRUCTIONS
 Report all TICs.

Hold Time
 Total Activity Exemption: Yes No

Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B34B45	N	08 MAR 2016	0630	1x250-mL G/P	2320_ALKALINITY: COMMON	14 Days	Cool <=6C
B34B45	N			1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 04; 7470_MERCURY_CV: COMMON (AQUEOUS)	6 Months	HNO3 to pH <2
B34B45	N			3x1-L aG	8081_PEST_GC: CH 01; 8081_PEST_GC: COMMON	7/40 Days	Cool <=6C
B34B45	N			4x1-L aG	8082_PCB_GC: COMMON	None	Cool <=6C
B34B45	N			2x1-L aG	8151_HERBICIDE_GC: COMMON	7/40 Days	Cool <=6C
B34B45	N			4x40-mL aGs*	8260_VOA_GCMS_IX: COMMON	14 Days	HCl or H2SO4 to pH <2/Cool <=6C
B34B45	N			4x1-L aG	8270_SVOA_GCMS_IX: COMMON REV 1	7/40 Days	Cool <=6C
B34B45	N			1x250-mL G/P	9012_CYANIDE: COMMON	14 Days	NaOH to pH >=12/Cool <=6C
B34B45	N			1x250-mL G/P	9034_SULFIDE: COMMON	7 Days	ZnAc+NaOH to pH > 9/Cool <=6C
B34TF2	Y			1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 04; 7470_MERCURY_CV: COMMON (AQUEOUS)	6 Months	HNO3 to pH <2

Relinquished By K.C. Patterson/CHPRC	Print 	Sign	Date/Time MAR 08 2016 1051	Received By L.D. Wall CHPRC	Print 	Sign	Date/Time MAR 08 2016 1051
Relinquished By L.D. Wall CHPRC	Print 	Sign	Date/Time MAR 08 2016 1400	Received By Patricia Dent P. Dent	Print 	Sign	Date/Time 3/16/16 0920
Relinquished By 	Print 	Sign	Date/Time MAR 08 2016 1400	Received By Patricia Dent P. Dent	Print 	Sign	Date/Time 3/16/16 0920
Relinquished By 	Print 	Sign	Date/Time MAR 08 2016 1400	Received By Patricia Dent P. Dent	Print 	Sign	Date/Time 3/16/16 0920

Matrix *
 S = Soil DS = Drum Solids
 SE = Sediment DL = Drum Liquids
 SO = Solid T = Tissue
 SL = Sludge WI = Wipe
 W = Water L = Liquid
 O = Oil V = Vegetation
 A = Air X = Other

Disposal Method (e.g., Return to customer, per lab procedure, used in process)
 Disposed By
 Date/Time
 FSR ID = FSR25973
 PRINTED ON 3/1/2016

392828 85165

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.# **W16-003-055**
Page 1 of 1

Collector **K.C. Patterson/CHPRC** Telephone No. **509-376-4650**
 SAF No. **W16-003** Purchase Order/Charge Code **300071**
 Project Title **RCRA, MARCH 2016** Logbook No. **HNF-N-506 81/83**
 Shipped To (Lab) **GEL Laboratories, LLC** Method of Shipment **Commercial Carrier**
 Protocol **RCRA** Priority: **30 Days** SPECIAL INSTRUCTIONS **PRIORITY**
 Bill of Lading/Air Bill No. **775826804327** Offsite Property No. **6420**
 Total Activity Exemption: Yes No

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1

Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B34B57	N	W MAR 08 2016	1215	1x250-mL G/P	2320_ALKALINITY: COMMON	14 Days	Cool <=6C
B34B57	N	W		1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 04; 7470_MERCURY_CV: COMMON (AQUEOUS)	6 Months	HNO3 to pH <2
B34B57	N	W		3x1-L aG	8081_PEST_GC: CH 01; 8081_PEST_GC: COMMON	7/40 Days	Cool <=6C
B34B57	N	W		4x1-L aG	8082_PCB_GC: COMMON	None	Cool <=6C
B34B57	N	W		2x1-L aG	8151_HERBICIDE_GC: COMMON	7/40 Days	Cool <=6C
B34B57	N	W		4x40-mL aGs*	8260_VOA_GCMS_IX: COMMON	14 Days	HCl or H2SO4 to pH <2/Cool <=6C
B34B57	N	W		4x1-L aG	8270_SVOA_GCMS_IX: COMMON REV 1	7/40 Days	Cool <=6C
B34B57	N	W		1x250-mL G/P	9012_CYANIDE: COMMON	14 Days	NaOH to pH >=12/Cool <=6C
B34B57	N	W		1x250-mL G/P	9034_SULFIDE: COMMON	7 Days	ZnAc+NaOH to pH > 9/Cool <=6C
B34TF5	Y	W		1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 04; 7470_MERCURY_CV: COMMON (AQUEOUS)	6 Months	HNO3 to pH <2

Relinquished By **K.C. Patterson/CHPRC** Date/Time **MAR 08 2016 1230** Sign *[Signature]*
 Relinquished By **L.B. Wall** Date/Time **MAR 08 2016 1230** Sign *[Signature]*
 Relinquished By **CHPRC** Date/Time **MAR 08 2016 1400** Sign *[Signature]*
 Relinquished By **FED EX** Date/Time **MAR 08 2016 1020** Sign *[Signature]*
 Received By **L.B. Wall** Date/Time **MAR 08 2016 1230** Sign *[Signature]*
 Received By **FEDEX** Date/Time **MAR 08 2016 1230** Sign *[Signature]*
 Received By **Patricie Deast P. Hunt** Date/Time **3/9/16 1020** Sign *[Signature]*
 Received By **FEDEX** Date/Time **3/9/16 1020** Sign *[Signature]*

Disposal Method (e.g., Return to customer, per lab procedure, used in process)
 Disposed By
 Date/Time

Matrix *
 S = Soil DS = Drum Solids
 SE = Sediment DL = Drum Liquids
 SO = Solid T = Tissue
 SL = Sludge W = Wipe
 W = Water L = Liquid
 O = Oil V = Vegetation
 A = Air X = Other

PRINTED ON 3/1/2016
 FSR ID = FSR25976
 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company
 C.O.C.# **84165** **W16-003-058**
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 Page 1 of 1

Collector **K.C. Patterson/CHPRC** Telephone No. **509-376-4650**
 SAF No. **W16-003** Purchase Order/Charge Code **300071**
 Project Title **RCRA, MARCH 2016** Ice Chest No. **6425-494**
 Shipped To (Lab) **GEL Laboratories, LLC** Bill of Lading/Air Bill No. **775823536954**
 Protocol **RCRA** Offsite Property No. **6417**

PRIORITY
 SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes No
 Report all TICs.

Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B34B79	N	W MAR 08 2016	0832	1x250-mL G/P	2320_ALKALINITY: COMMON	14 Days	Cool <=6C
B34B79	N	W		1x500-mL G	7470_MERCURY_CV: COMMON (AQUEOUS)	28 Days	HNO3 to pH <2
B34B79	N	W		3x1-L aG	8081_PEST_GC: CH 01; 8081_PEST_GC: COMMON	7/40 Days	Cool <=6C
B34B79	N	W		4x1-L aG	8082_PCB_GC: COMMON	None	Cool <=6C
B34B79	N	W		2x1-L aG	8151_HERBICIDE_GC: COMMON	7/40 Days	Cool <=6C
B34B79	N	W		4x40-mL aGs*	8260_VOA_GCMS_IX: COMMON	14 Days	HCl or H2SO4 to pH <2/Cool <=6C
B34B79	N	W		4x1-L aG	8270_SVOA_GCMS_IX: COMMON REV 1	7/40 Days	Cool <=6C
B34B79	N	W		1x250-mL G/P	9012_CYANIDE: COMMON	14 Days	NaOH to pH >=12/Cool <=6C
B34B79	N	W		1x250-mL G/P	9034_SULFIDE: COMMON	7 Days	ZnAc+NaOH to pH > 9/Cool <=6C
B34TH0	Y	W		1x500-mL G	7470_MERCURY_CV: COMMON (AQUEOUS)	28 Days	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
K.C. Patterson/CHPRC			MAR 08 2016 0930	L.D. Wall	CHPRC		MAR 08 2016 0930	S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By	L.D. Wall		MAR 08 2016 1400	Received By	FEDEX			
Relinquished By				Received By			Mart 3/9/16 10:20	
Relinquished By				Received By				

FINAL SAMPLE DISPOSITION
 Disposal Method (e.g., Return to customer, per lab procedure, used in process)
 Disposed By
 Date/Time
 A-6004-842 (REV 2)
 FSR ID = FSR8318
 PRINTED ON 3/1/2016

CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # W16-003-059
Page 1 of 1

Collector **K.C. Patterson/CHPRC** Contact/Requester **Karen Waters-Husted** Telephone No. **509-376-4650**

SAF No. **W16-003** Sampling Origin **Hanford Site** Purchase Order/Charge Code **300071**

Project Title **RCRA, MARCH 2016** Logbook No. **HNF-N-506 8183** Ice Chest No. **GWS-495**

Shipped To (Lab) **GEL Laboratories, LLC** Method of Shipment **Commercial Carrier** Bill of Lading/Air Bill No. **775823537012**

Protocol **RCRA** Priority: **30 Days** Priority: **PRIORITY** Offsite Property No. **6417**

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1

Sample No.	Filter *	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B34TH1	Y	W MAR 08 2016	0832	1x500-mL G	7470_MERCURY_CV: COMMON (AQUEOUS)	28 Days	HNO3 to pH <2
B34B80	N	W		1x250-mL G/P	2320_ALKALINITY: COMMON	14 Days	Cool <=6C
B34B80	N	W		1x500-mL G	7470_MERCURY_CV: COMMON (AQUEOUS)	28 Days	HNO3 to pH <2
B34B80	N	W		3x1-L aG	8081_PEST_GC: CH 01;	7/40 Days	Cool <=6C
B34B80	N	W		4x1-L aG	8082_PCB_GC: COMMON	None	Cool <=6C
B34B80	N	W		2x1-L aG	8151_HERBICIDE_GC: COMMON	7/40 Days	Cool <=6C
B34B80	N	W		4x40-mL aGs*	8260_VOA_GCMS_IX: COMMON	14 Days	HCl or H2SO4 to pH <2/Cool <=6C
B34B80	N	W		4x1-L aG	8270_SVOA_GCMS_IX: COMMON REV 1	7/40 Days	Cool <=6C
B34B80	N	W		1x250-mL G/P	9012_CYANIDE: COMMON	14 Days	NaOH to pH >=12/Cool <=6C
B34B80	N	W		1x250-mL G/P	9034_SULFIDE: COMMON	7 Days	ZnAc+NaOH to pH > 9/Cool <=6C

Relinquished By K.C. Patterson/CHPRC	Print <i>[Signature]</i>	Sign MAR 08 2016	Date/Time 0930	Received By L.D. Wall CHPRC	Print <i>[Signature]</i>	Sign MAR 08 2016	Date/Time 0930
Relinquished By CHPRC	Print <i>[Signature]</i>	Sign MAR 08 2016	Date/Time 1400	Received By FEDEX	Print <i>[Signature]</i>	Sign MAR 08 2016	Date/Time 10:20
Relinquished By 2 of 97	Print <i>[Signature]</i>	Sign MAR 08 2016	Date/Time 1400	Received By PATRICIA DEWITT P. ALBERT	Print <i>[Signature]</i>	Sign MAR 08 2016	Date/Time 10:20

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By _____ Date/Time _____

Matrix *
 S = Soil DS = Drum Solids
 SE = Sediment DL = Drum Liquids
 SO = Solid T = Tissue
 SL = Sludge WI = Wipe
 W = Water L = Liquid
 O = Oil V = Vegetation
 A = Air X = Other



SAMPLE RECEIPT & REVIEW FORM

Client: CPRC		SDG/AR/COC/Work Order: 392828	
Received By: P. Vent		Date Received: 3/9/16	
Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?		X	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0/CPM
Classified Radioactive II or III by RSO?		X	If yes, Were swipes taken of sample containers < action levels?
COC/Samples marked containing PCBs?		X	
Package, COC, and/or Samples marked as beryllium or asbestos containing?		X	If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?		X	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		X	

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	X			Preservation Method: <u>Ice bags</u> Blue ice Dry ice <u>None</u> Other (describe) *all temperatures are recorded in Celsius 1, 2, 19c
2a Daily check performed and passed on IR temperature gun?	X			Temperature Device Serial #: Secondary Temperature Device Serial # (If Applicable): 001404337
3 Chain of custody documents included with shipment?	X			
4 Sample containers intact and sealed?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Samples requiring chemical preservation at proper pH?	X			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6 Do Low Level Perchlorate samples have headspace as required?			X	Sample ID's and containers affected:
7 VOA vials contain acid preservation?	X			(If unknown, select No)
8 VOA vials free of headspace (defined as < 6mm bubble)?	X			Sample ID's and containers affected:
9 Are Encore containers present?			X	(If yes, immediately deliver to Volatiles laboratory)
10 Samples received within holding time?	X			ID's and tests affected:
11 Sample ID's on COC match ID's on bottles?	X			Sample ID's and containers affected:
12 Date & time on COC match date & time on bottles?	X			Sample ID's affected:
13 Number of containers received match number indicated on COC?	X			Sample ID's affected:
14 Are sample containers identifiable as GEL provided?	X			
15 COC form is properly signed in relinquished/received sections?	X			
16 Carrier and tracking number.				Circle Applicable: FedEx Air FedEx Ground UPS Field Services Courier Other 7758 2496 0636 7758 2353 7067-19. NO ICE 7758 2496 1209 7758 2079 2295 7758 2680 4327 7758 3353 7012 7758 2353 6954 1, 2c
Comments (Use Continuation Form if needed):				

PM (or PMA) review: Initials **DS** Date **3/10/16** Page **1** of **1** GL-CHL-SR-001 Rev 2

Data Review Qualifier Definitions

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 (843) 556-8171

Report Date: 27-JUN-16

Project Specific Qualifier Definitions for GEL Client Code: CPRC

Revision #1 28-JUN-2016

Qualifier	Qualifier Definition	Department	Fraction
U	Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.		
J	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated	Organics	
P	Aroclor target analyte with greater than 25% difference between column analyses.	Organics	
C	Analyte has been confirmed by GC/MS analysis	Organics	Pesticide
B	The analyte was detected in both the associated QC blank and in the sample.	Organics	
E	Concentration exceeds the calibration range of the instrument	Organics	
A	The TIC is a suspected aldol-condensation product	Organics	Semi-Volatile
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier		
N	Spike Sample recovery is outside control limits.		
*	Duplicate analysis not within control limits	Inorganics	
>	Result greater than quantifiable range or greater than upper limit of the analysis range	General Chemistry	
Z	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier		
B	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).	Inorganics	Metals
D	Results are reported from a diluted aliquot of sample.		
E	Reported value is estimated due to interferences. See comment in narrative.	Inorganics	Metals
M	Duplicate precision not met.	Inorganics	Metals
o	Analyte failed to recover within LCS limits (Organics only)	Organics	
S	Reported value determined by the Method of Standard Additions (MSA)	Inorganics	
T	Spike and/or spike duplicate sample recovery is outside control limits.	Organics	
W	Post-digestion spike recovery for GFAA out of control limit. Sample absorbency < 50% of spike absorbency.	Inorganics	
B	The associated QC sample blank has a result >= 2X the MDA and, after corrections, result is >= MDA for this sample	Radiological	
Y	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier		
+	Correlation coefficient for Method of Standard Additions (MSA) is < 0.995	Inorganics	
B	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).	General Chemistry	
C	Target analyte was detected in the sample and the associated blank. The associated blank concentration is >= EQL or is > 5% of the measured concentration and/or decision level for associated samples.	Inorganics	Metals
C	Target analyte was detected in the sample and the associated blank. The associated blank concentration is >= EQL or is > 5% of the measured concentration and/or decision level for associated samples.	General Chemistry	
<	Sample is below the EPA guidance level for Reactive Releasable Cyanide and/or Reactive Releasable Sulfide	General Chemistry	
UX	Gamma Spectroscopy--Uncertain identification	Radiological	

Laboratory Certifications

List of current GEL Certifications as of 27 June 2016

State	Certification
Alaska	UST-0110
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
Delaware	SC00012
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA160006
Maryland	270
Massachusetts	M-SC012
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122016-1
New Hampshire NELAP	205415
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania NELAP	68-00485
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-16-11
Utah NELAP	SC000122016-20
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404

Volatile Analysis

Case Narrative

**GC/MS Volatile
Technical Case Narrative
CH2MHill Plateau Remediation Company (CPRC)
SDG #: GEL392828
Work Order #: 392828**

Product: Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer
Analytical Method: SW846 8260C
Analytical Procedure: GL-OA-E-038 REV# 22
Analytical Batch: 1551213

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
392828001	B34B45
392828003	B34B46
392828005	B34B57
392828007	B34B79
392828010	B34B80
1203505537	Method Blank (MB)
1203505538	Laboratory Control Sample (LCS)
1203505539	392828001(B34B45) Post Spike (PS)
1203505540	392828001(B34B45) Post Spike Duplicate (PSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

Continuing Calibration Verification Requirements

The calibration verification standard requirements were not all met for samples. Chloroethane was above the 20%D/drift at 21.1% in the daily CCV analyzed on 3/10/16. There were no positive results for any of the analytes that were outside the calibration criteria. The results are reported.

Quality Control (QC) Information

Matrix Spike/Matrix Spike Duplicate Recovery Statement

The spike and/or spike duplicate (See Below) recoveries were not all within the acceptance limits. The recoveries were similar. It is believed possible matrix interference has been demonstrated.

Sample	Analyte	Value
1203505539 (B34B45PS)	Acetone	64* (70%-130%)
1203505540 (B34B45PSD)	Acetone	59* (70%-130%)

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

**Qualifier Definition Report
for**

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL392828 GEL Work Order: 392828

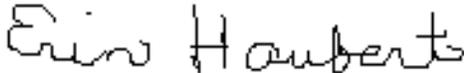
The Qualifiers in this report are defined as follows:

- T Spike and/or spike duplicate sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- DL Indicates that sample is diluted.
- RA Indicates that sample is re-analyzed without re-extraction.
- RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: Erin Haubert

Date: 05 APR 2016

Title: Data Validator

Sample Data Summary

Volatile
Certificate of Analysis
Sample Summary

Page 1 of 2

SDG Number: GEL392828	Date Collected: 03/08/2016 06:30	Matrix: WATER
Lab Sample ID: 392828001	Date Received: 03/09/2016 10:20	
Client ID: B34B45	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1551213	Method: SW846 8260C	SOP Ref: GL-OA-E-038
Run Date: 03/10/2016 13:13	Inst: VOA3.I	Dilution: 1
Prep Date: 03/10/2016 13:13	Analyst: CDS1	Purge Vol: 5 mL
Data File: 031016V3\3Z411.D	Column: DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	RDL
630-20-6	1,1,1,2-Tetrachloroethane	U	0.300	ug/L	0.300	2.00	5.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	2.00	5.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	2.00	5.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	2.00	5.00
96-18-4	1,2,3-Trichloropropane	U	0.300	ug/L	0.300	2.00	5.00
96-12-8	1,2-Dibromo-3-chloropropane	U	0.500	ug/L	0.500	2.00	5.00
106-93-4	1,2-Dibromoethane	U	0.300	ug/L	0.300	2.00	5.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	2.00	5.00
78-87-5	1,2-Dichloropropane	U	0.300	ug/L	0.300	2.00	5.00
71-43-2	Benzene	U	0.300	ug/L	0.300	2.00	5.00
75-25-2	Bromoform	U	0.300	ug/L	0.300	2.00	5.00
75-15-0	Carbon disulfide	U	1.60	ug/L	1.60	10.0	5.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	2.00	5.00
108-90-7	Chlorobenzene	U	0.300	ug/L	0.300	2.00	5.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	2.00	5.00
124-48-1	Dibromochloromethane	U	0.300	ug/L	0.300	2.00	5.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	2.00	5.00
75-09-2	Methylene chloride	U	1.60	ug/L	1.60	5.00	5.00
100-42-5	Styrene	U	0.300	ug/L	0.300	2.00	5.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	2.00	5.00
108-88-3	Toluene	U	0.300	ug/L	0.300	2.00	5.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	2.00	5.00
10061-01-5	cis-1,3-Dichloropropylene	U	0.300	ug/L	0.300	2.00	5.00
156-60-5	trans-1,2-Dichloroethylene	U	0.300	ug/L	0.300	2.00	5.00
10061-02-6	trans-1,3-Dichloropropylene	U	0.300	ug/L	0.300	2.00	5.00
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	2.00	10.0
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	2.00	10.0
78-93-3	2-Butanone	U	3.00	ug/L	3.00	10.0	10.0
126-99-8	2-Chloro-1,3-butadiene	U	0.300	ug/L	0.300	2.00	10.0
108-10-1	4-Methyl-2-pentanone	U	3.00	ug/L	3.00	10.0	10.0
107-05-1	Allyl chloride	U	3.00	ug/L	3.00	10.0	10.0
75-00-3	Chloroethane	U	0.300	ug/L	0.300	2.00	10.0
74-87-3	Chloromethane	U	0.300	ug/L	0.300	2.00	10.0
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	2.00	10.0
75-71-8	Dichlorodifluoromethane	U	0.300	ug/L	0.300	2.00	10.0
97-63-2	Ethyl methacrylate	U	3.00	ug/L	3.00	10.0	10.0
74-88-4	Iodomethane	U	3.00	ug/L	3.00	10.0	10.0
126-98-7	Methacrylonitrile	U	3.00	ug/L	3.00	10.0	10.0

Volatile
Certificate of Analysis
Sample Summary

Page 2 of 2

SDG Number: GEL392828	Date Collected: 03/08/2016 06:30	Matrix: WATER
Lab Sample ID: 392828001	Date Received: 03/09/2016 10:20	
Client ID: B34B45	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1551213	Method: SW846 8260C	SOP Ref: GL-OA-E-038
Run Date: 03/10/2016 13:13	Inst: VOA3.I	Dilution: 1
Prep Date: 03/10/2016 13:13	Analyst: CDS1	Purge Vol: 5 mL
Data File: 031016V3\3Z411.D	Column: DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	RDL
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	2.00	10.0
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	6.00	10.0
591-78-6	2-Hexanone	U	3.00	ug/L	3.00	10.0	20.0
67-64-1	Acetone	TU	3.00	ug/L	3.00	10.0	20.0
108-05-4	Vinyl acetate	U	1.60	ug/L	1.60	5.00	50.0
110-57-6	trans-1,4-Dichloro-2-butene	U	1.50	ug/L	1.50	10.0	50.0
75-05-8	Acetonitrile	U	16.7	ug/L	16.7	50.0	100
107-02-8	Acrolein	U	3.00	ug/L	3.00	10.0	100
107-13-1	Acrylonitrile	U	3.00	ug/L	3.00	10.0	100
78-83-1	Isobutyl alcohol	U	33.0	ug/L	33.0	100	500
106-46-7	1,4-Dichlorobenzene	U	0.300	ug/L	0.300	2.00	
75-27-4	Bromodichloromethane	U	0.300	ug/L	0.300	2.00	
74-83-9	Bromomethane	U	0.300	ug/L	0.300	2.00	
80-62-6	Methyl methacrylate	U	3.00	ug/L	3.00	10.0	
107-12-0	Propionitrile	U	3.00	ug/L	3.00	10.0	
75-69-4	Trichlorofluoromethane	U	0.300	ug/L	0.300	2.00	
156-59-2	cis-1,2-Dichloroethylene	U	0.300	ug/L	0.300	2.00	

Volatile
Certificate of Analysis
Sample Summary

Page 1 of 2

SDG Number: GEL392828	Date Collected: 03/08/2016 09:43	Matrix: WATER
Lab Sample ID: 392828003	Date Received: 03/09/2016 10:20	
Client ID: B34B46	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1551213	Method: SW846 8260C	SOP Ref: GL-OA-E-038
Run Date: 03/10/2016 13:43	Inst: VOA3.I	Dilution: 1
Prep Date: 03/10/2016 13:43	Analyst: CDS1	Purge Vol: 5 mL
Data File: 031016V3\3Z412.D	Column: DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	RDL
630-20-6	1,1,1,2-Tetrachloroethane	U	0.300	ug/L	0.300	2.00	5.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	2.00	5.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	2.00	5.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	2.00	5.00
96-18-4	1,2,3-Trichloropropane	U	0.300	ug/L	0.300	2.00	5.00
96-12-8	1,2-Dibromo-3-chloropropane	U	0.500	ug/L	0.500	2.00	5.00
106-93-4	1,2-Dibromoethane	U	0.300	ug/L	0.300	2.00	5.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	2.00	5.00
78-87-5	1,2-Dichloropropane	U	0.300	ug/L	0.300	2.00	5.00
71-43-2	Benzene	U	0.300	ug/L	0.300	2.00	5.00
75-25-2	Bromoform	U	0.300	ug/L	0.300	2.00	5.00
75-15-0	Carbon disulfide	U	1.60	ug/L	1.60	10.0	5.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	2.00	5.00
108-90-7	Chlorobenzene	U	0.300	ug/L	0.300	2.00	5.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	2.00	5.00
124-48-1	Dibromochloromethane	U	0.300	ug/L	0.300	2.00	5.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	2.00	5.00
75-09-2	Methylene chloride	U	1.60	ug/L	1.60	5.00	5.00
100-42-5	Styrene	U	0.300	ug/L	0.300	2.00	5.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	2.00	5.00
108-88-3	Toluene	U	0.300	ug/L	0.300	2.00	5.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	2.00	5.00
10061-01-5	cis-1,3-Dichloropropylene	U	0.300	ug/L	0.300	2.00	5.00
156-60-5	trans-1,2-Dichloroethylene	U	0.300	ug/L	0.300	2.00	5.00
10061-02-6	trans-1,3-Dichloropropylene	U	0.300	ug/L	0.300	2.00	5.00
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	2.00	10.0
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	2.00	10.0
78-93-3	2-Butanone	U	3.00	ug/L	3.00	10.0	10.0
126-99-8	2-Chloro-1,3-butadiene	U	0.300	ug/L	0.300	2.00	10.0
108-10-1	4-Methyl-2-pentanone	U	3.00	ug/L	3.00	10.0	10.0
107-05-1	Allyl chloride	U	3.00	ug/L	3.00	10.0	10.0
75-00-3	Chloroethane	U	0.300	ug/L	0.300	2.00	10.0
74-87-3	Chloromethane	U	0.300	ug/L	0.300	2.00	10.0
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	2.00	10.0
75-71-8	Dichlorodifluoromethane	U	0.300	ug/L	0.300	2.00	10.0
97-63-2	Ethyl methacrylate	U	3.00	ug/L	3.00	10.0	10.0
74-88-4	Iodomethane	U	3.00	ug/L	3.00	10.0	10.0
126-98-7	Methacrylonitrile	U	3.00	ug/L	3.00	10.0	10.0

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SDG Number: GEL392828	Date Collected: 03/08/2016 09:43	Matrix: WATER
Lab Sample ID: 392828003	Date Received: 03/09/2016 10:20	
Client ID: B34B46	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1551213	Method: SW846 8260C	SOP Ref: GL-OA-E-038
Run Date: 03/10/2016 13:43	Inst: VOA3.I	Dilution: 1
Prep Date: 03/10/2016 13:43	Analyst: CDS1	Purge Vol: 5 mL
Data File: 031016V3\3Z412.D	Column: DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	RDL
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	2.00	10.0
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	6.00	10.0
591-78-6	2-Hexanone	U	3.00	ug/L	3.00	10.0	20.0
67-64-1	Acetone	TU	3.00	ug/L	3.00	10.0	20.0
108-05-4	Vinyl acetate	U	1.60	ug/L	1.60	5.00	50.0
110-57-6	trans-1,4-Dichloro-2-butene	U	1.50	ug/L	1.50	10.0	50.0
75-05-8	Acetonitrile	U	16.7	ug/L	16.7	50.0	100
107-02-8	Acrolein	U	3.00	ug/L	3.00	10.0	100
107-13-1	Acrylonitrile	U	3.00	ug/L	3.00	10.0	100
78-83-1	Isobutyl alcohol	U	33.0	ug/L	33.0	100	500
106-46-7	1,4-Dichlorobenzene	U	0.300	ug/L	0.300	2.00	
75-27-4	Bromodichloromethane	U	0.300	ug/L	0.300	2.00	
74-83-9	Bromomethane	U	0.300	ug/L	0.300	2.00	
80-62-6	Methyl methacrylate	U	3.00	ug/L	3.00	10.0	
107-12-0	Propionitrile	U	3.00	ug/L	3.00	10.0	
75-69-4	Trichlorofluoromethane	U	0.300	ug/L	0.300	2.00	
156-59-2	cis-1,2-Dichloroethylene	U	0.300	ug/L	0.300	2.00	

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SDG Number: GEL392828	Date Collected: 03/08/2016 12:15	Matrix: WATER
Lab Sample ID: 392828005	Date Received: 03/09/2016 10:20	
Client ID: B34B57	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1551213	Method: SW846 8260C	SOP Ref: GL-OA-E-038
Run Date: 03/10/2016 14:13	Inst: VOA3.I	Dilution: 1
Prep Date: 03/10/2016 14:13	Analyst: CDS1	Purge Vol: 5 mL
Data File: 031016V3\3Z413.D	Column: DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	RDL
630-20-6	1,1,1,2-Tetrachloroethane	U	0.300	ug/L	0.300	2.00	5.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	2.00	5.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	2.00	5.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	2.00	5.00
96-18-4	1,2,3-Trichloropropane	U	0.300	ug/L	0.300	2.00	5.00
96-12-8	1,2-Dibromo-3-chloropropane	U	0.500	ug/L	0.500	2.00	5.00
106-93-4	1,2-Dibromoethane	U	0.300	ug/L	0.300	2.00	5.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	2.00	5.00
78-87-5	1,2-Dichloropropane	U	0.300	ug/L	0.300	2.00	5.00
71-43-2	Benzene	U	0.300	ug/L	0.300	2.00	5.00
75-25-2	Bromoform	U	0.300	ug/L	0.300	2.00	5.00
75-15-0	Carbon disulfide	U	1.60	ug/L	1.60	10.0	5.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	2.00	5.00
108-90-7	Chlorobenzene	U	0.300	ug/L	0.300	2.00	5.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	2.00	5.00
124-48-1	Dibromochloromethane	U	0.300	ug/L	0.300	2.00	5.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	2.00	5.00
75-09-2	Methylene chloride	U	1.60	ug/L	1.60	5.00	5.00
100-42-5	Styrene	U	0.300	ug/L	0.300	2.00	5.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	2.00	5.00
108-88-3	Toluene	U	0.300	ug/L	0.300	2.00	5.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	2.00	5.00
10061-01-5	cis-1,3-Dichloropropylene	U	0.300	ug/L	0.300	2.00	5.00
156-60-5	trans-1,2-Dichloroethylene	U	0.300	ug/L	0.300	2.00	5.00
10061-02-6	trans-1,3-Dichloropropylene	U	0.300	ug/L	0.300	2.00	5.00
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	2.00	10.0
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	2.00	10.0
78-93-3	2-Butanone	U	3.00	ug/L	3.00	10.0	10.0
126-99-8	2-Chloro-1,3-butadiene	U	0.300	ug/L	0.300	2.00	10.0
108-10-1	4-Methyl-2-pentanone	U	3.00	ug/L	3.00	10.0	10.0
107-05-1	Allyl chloride	U	3.00	ug/L	3.00	10.0	10.0
75-00-3	Chloroethane	U	0.300	ug/L	0.300	2.00	10.0
74-87-3	Chloromethane	U	0.300	ug/L	0.300	2.00	10.0
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	2.00	10.0
75-71-8	Dichlorodifluoromethane	U	0.300	ug/L	0.300	2.00	10.0
97-63-2	Ethyl methacrylate	U	3.00	ug/L	3.00	10.0	10.0
74-88-4	Iodomethane	U	3.00	ug/L	3.00	10.0	10.0
126-98-7	Methacrylonitrile	U	3.00	ug/L	3.00	10.0	10.0

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SDG Number: GEL392828	Date Collected: 03/08/2016 12:15	Matrix: WATER
Lab Sample ID: 392828005	Date Received: 03/09/2016 10:20	
Client ID: B34B57	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1551213	Method: SW846 8260C	SOP Ref: GL-OA-E-038
Run Date: 03/10/2016 14:13	Inst: VOA3.I	Dilution: 1
Prep Date: 03/10/2016 14:13	Analyst: CDS1	Purge Vol: 5 mL
Data File: 031016V3\3Z413.D	Column: DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	RDL
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	2.00	10.0
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	6.00	10.0
591-78-6	2-Hexanone	U	3.00	ug/L	3.00	10.0	20.0
67-64-1	Acetone	TU	3.00	ug/L	3.00	10.0	20.0
108-05-4	Vinyl acetate	U	1.60	ug/L	1.60	5.00	50.0
110-57-6	trans-1,4-Dichloro-2-butene	U	1.50	ug/L	1.50	10.0	50.0
75-05-8	Acetonitrile	U	16.7	ug/L	16.7	50.0	100
107-02-8	Acrolein	U	3.00	ug/L	3.00	10.0	100
107-13-1	Acrylonitrile	U	3.00	ug/L	3.00	10.0	100
78-83-1	Isobutyl alcohol	U	33.0	ug/L	33.0	100	500
106-46-7	1,4-Dichlorobenzene	U	0.300	ug/L	0.300	2.00	
75-27-4	Bromodichloromethane	U	0.300	ug/L	0.300	2.00	
74-83-9	Bromomethane	U	0.300	ug/L	0.300	2.00	
80-62-6	Methyl methacrylate	U	3.00	ug/L	3.00	10.0	
107-12-0	Propionitrile	U	3.00	ug/L	3.00	10.0	
75-69-4	Trichlorofluoromethane	U	0.300	ug/L	0.300	2.00	
156-59-2	cis-1,2-Dichloroethylene	U	0.300	ug/L	0.300	2.00	

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SDG Number: GEL392828	Date Collected: 03/08/2016 08:32	Matrix: WATER
Lab Sample ID: 392828007	Date Received: 03/09/2016 10:20	
Client ID: B34B79	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1551213	Method: SW846 8260C	SOP Ref: GL-OA-E-038
Run Date: 03/10/2016 14:44	Inst: VOA3.I	Dilution: 1
Prep Date: 03/10/2016 14:44	Analyst: CDS1	Purge Vol: 5 mL
Data File: 031016V3\3Z414.D	Column: DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	RDL
630-20-6	1,1,1,2-Tetrachloroethane	U	0.300	ug/L	0.300	2.00	5.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	2.00	5.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	2.00	5.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	2.00	5.00
96-18-4	1,2,3-Trichloropropane	U	0.300	ug/L	0.300	2.00	5.00
96-12-8	1,2-Dibromo-3-chloropropane	U	0.500	ug/L	0.500	2.00	5.00
106-93-4	1,2-Dibromoethane	U	0.300	ug/L	0.300	2.00	5.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	2.00	5.00
78-87-5	1,2-Dichloropropane	U	0.300	ug/L	0.300	2.00	5.00
71-43-2	Benzene	U	0.300	ug/L	0.300	2.00	5.00
75-25-2	Bromoform	U	0.300	ug/L	0.300	2.00	5.00
75-15-0	Carbon disulfide	U	1.60	ug/L	1.60	10.0	5.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	2.00	5.00
108-90-7	Chlorobenzene	U	0.300	ug/L	0.300	2.00	5.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	2.00	5.00
124-48-1	Dibromochloromethane	U	0.300	ug/L	0.300	2.00	5.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	2.00	5.00
75-09-2	Methylene chloride	U	1.60	ug/L	1.60	5.00	5.00
100-42-5	Styrene	U	0.300	ug/L	0.300	2.00	5.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	2.00	5.00
108-88-3	Toluene	U	0.300	ug/L	0.300	2.00	5.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	2.00	5.00
10061-01-5	cis-1,3-Dichloropropylene	U	0.300	ug/L	0.300	2.00	5.00
156-60-5	trans-1,2-Dichloroethylene	U	0.300	ug/L	0.300	2.00	5.00
10061-02-6	trans-1,3-Dichloropropylene	U	0.300	ug/L	0.300	2.00	5.00
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	2.00	10.0
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	2.00	10.0
78-93-3	2-Butanone	U	3.00	ug/L	3.00	10.0	10.0
126-99-8	2-Chloro-1,3-butadiene	U	0.300	ug/L	0.300	2.00	10.0
108-10-1	4-Methyl-2-pentanone	U	3.00	ug/L	3.00	10.0	10.0
107-05-1	Allyl chloride	U	3.00	ug/L	3.00	10.0	10.0
75-00-3	Chloroethane	U	0.300	ug/L	0.300	2.00	10.0
74-87-3	Chloromethane	U	0.300	ug/L	0.300	2.00	10.0
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	2.00	10.0
75-71-8	Dichlorodifluoromethane	U	0.300	ug/L	0.300	2.00	10.0
97-63-2	Ethyl methacrylate	U	3.00	ug/L	3.00	10.0	10.0
74-88-4	Iodomethane	U	3.00	ug/L	3.00	10.0	10.0
126-98-7	Methacrylonitrile	U	3.00	ug/L	3.00	10.0	10.0

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SDG Number: GEL392828	Date Collected: 03/08/2016 08:32	Matrix: WATER
Lab Sample ID: 392828007	Date Received: 03/09/2016 10:20	
Client ID: B34B79	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1551213	Method: SW846 8260C	SOP Ref: GL-OA-E-038
Run Date: 03/10/2016 14:44	Inst: VOA3.I	Dilution: 1
Prep Date: 03/10/2016 14:44	Analyst: CDS1	Purge Vol: 5 mL
Data File: 031016V3\3Z414.D	Column: DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	RDL
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	2.00	10.0
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	6.00	10.0
591-78-6	2-Hexanone	U	3.00	ug/L	3.00	10.0	20.0
67-64-1	Acetone	TU	3.00	ug/L	3.00	10.0	20.0
108-05-4	Vinyl acetate	U	1.60	ug/L	1.60	5.00	50.0
110-57-6	trans-1,4-Dichloro-2-butene	U	1.50	ug/L	1.50	10.0	50.0
75-05-8	Acetonitrile	U	16.7	ug/L	16.7	50.0	100
107-02-8	Acrolein	U	3.00	ug/L	3.00	10.0	100
107-13-1	Acrylonitrile	U	3.00	ug/L	3.00	10.0	100
78-83-1	Isobutyl alcohol	U	33.0	ug/L	33.0	100	500
106-46-7	1,4-Dichlorobenzene	U	0.300	ug/L	0.300	2.00	
75-27-4	Bromodichloromethane	U	0.300	ug/L	0.300	2.00	
74-83-9	Bromomethane	U	0.300	ug/L	0.300	2.00	
80-62-6	Methyl methacrylate	U	3.00	ug/L	3.00	10.0	
107-12-0	Propionitrile	U	3.00	ug/L	3.00	10.0	
75-69-4	Trichlorofluoromethane	U	0.300	ug/L	0.300	2.00	
156-59-2	cis-1,2-Dichloroethylene	U	0.300	ug/L	0.300	2.00	

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SDG Number: GEL392828	Date Collected: 03/08/2016 08:32	Matrix: WATER
Lab Sample ID: 392828010	Date Received: 03/09/2016 10:20	
Client ID: B34B80	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1551213	Method: SW846 8260C	SOP Ref: GL-OA-E-038
Run Date: 03/10/2016 15:14	Inst: VOA3.I	Dilution: 1
Prep Date: 03/10/2016 15:14	Analyst: CDS1	Purge Vol: 5 mL
Data File: 031016V3\3Z415.D	Column: DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	RDL
630-20-6	1,1,1,2-Tetrachloroethane	U	0.300	ug/L	0.300	2.00	5.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	2.00	5.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	2.00	5.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	2.00	5.00
96-18-4	1,2,3-Trichloropropane	U	0.300	ug/L	0.300	2.00	5.00
96-12-8	1,2-Dibromo-3-chloropropane	U	0.500	ug/L	0.500	2.00	5.00
106-93-4	1,2-Dibromoethane	U	0.300	ug/L	0.300	2.00	5.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	2.00	5.00
78-87-5	1,2-Dichloropropane	U	0.300	ug/L	0.300	2.00	5.00
71-43-2	Benzene	U	0.300	ug/L	0.300	2.00	5.00
75-25-2	Bromoform	U	0.300	ug/L	0.300	2.00	5.00
75-15-0	Carbon disulfide	U	1.60	ug/L	1.60	10.0	5.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	2.00	5.00
108-90-7	Chlorobenzene	U	0.300	ug/L	0.300	2.00	5.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	2.00	5.00
124-48-1	Dibromochloromethane	U	0.300	ug/L	0.300	2.00	5.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	2.00	5.00
75-09-2	Methylene chloride	U	1.60	ug/L	1.60	5.00	5.00
100-42-5	Styrene	U	0.300	ug/L	0.300	2.00	5.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	2.00	5.00
108-88-3	Toluene	U	0.300	ug/L	0.300	2.00	5.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	2.00	5.00
10061-01-5	cis-1,3-Dichloropropylene	U	0.300	ug/L	0.300	2.00	5.00
156-60-5	trans-1,2-Dichloroethylene	U	0.300	ug/L	0.300	2.00	5.00
10061-02-6	trans-1,3-Dichloropropylene	U	0.300	ug/L	0.300	2.00	5.00
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	2.00	10.0
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	2.00	10.0
78-93-3	2-Butanone	U	3.00	ug/L	3.00	10.0	10.0
126-99-8	2-Chloro-1,3-butadiene	U	0.300	ug/L	0.300	2.00	10.0
108-10-1	4-Methyl-2-pentanone	U	3.00	ug/L	3.00	10.0	10.0
107-05-1	Allyl chloride	U	3.00	ug/L	3.00	10.0	10.0
75-00-3	Chloroethane	U	0.300	ug/L	0.300	2.00	10.0
74-87-3	Chloromethane	U	0.300	ug/L	0.300	2.00	10.0
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	2.00	10.0
75-71-8	Dichlorodifluoromethane	U	0.300	ug/L	0.300	2.00	10.0
97-63-2	Ethyl methacrylate	U	3.00	ug/L	3.00	10.0	10.0
74-88-4	Iodomethane	U	3.00	ug/L	3.00	10.0	10.0
126-98-7	Methacrylonitrile	U	3.00	ug/L	3.00	10.0	10.0

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SDG Number: GEL392828	Date Collected: 03/08/2016 08:32	Matrix: WATER
Lab Sample ID: 392828010	Date Received: 03/09/2016 10:20	
	Client: CPRC001	Project: CPRC0W16003
Client ID: B34B80	Method: SW846 8260C	SOP Ref: GL-OA-E-038
Batch ID: 1551213	Inst: VOA3.I	Dilution: 1
Run Date: 03/10/2016 15:14	Analyst: CDS1	Purge Vol: 5 mL
Prep Date: 03/10/2016 15:14		
Data File: 031016V3\3Z415.D	Column: DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	RDL
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	2.00	10.0
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	6.00	10.0
591-78-6	2-Hexanone	U	3.00	ug/L	3.00	10.0	20.0
67-64-1	Acetone	TU	3.00	ug/L	3.00	10.0	20.0
108-05-4	Vinyl acetate	U	1.60	ug/L	1.60	5.00	50.0
110-57-6	trans-1,4-Dichloro-2-butene	U	1.50	ug/L	1.50	10.0	50.0
75-05-8	Acetonitrile	U	16.7	ug/L	16.7	50.0	100
107-02-8	Acrolein	U	3.00	ug/L	3.00	10.0	100
107-13-1	Acrylonitrile	U	3.00	ug/L	3.00	10.0	100
78-83-1	Isobutyl alcohol	U	33.0	ug/L	33.0	100	500
106-46-7	1,4-Dichlorobenzene	U	0.300	ug/L	0.300	2.00	
75-27-4	Bromodichloromethane	U	0.300	ug/L	0.300	2.00	
74-83-9	Bromomethane	U	0.300	ug/L	0.300	2.00	
80-62-6	Methyl methacrylate	U	3.00	ug/L	3.00	10.0	
107-12-0	Propionitrile	U	3.00	ug/L	3.00	10.0	
75-69-4	Trichlorofluoromethane	U	0.300	ug/L	0.300	2.00	
156-59-2	cis-1,2-Dichloroethylene	U	0.300	ug/L	0.300	2.00	

Quality Control Summary

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Report Date: June 27, 2016

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CH2M Hill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Contact: Mr. Scot Fitzgerald

Workorder: 392828

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	1551213										
QC1203505538	LCS										
1,1,1,2-Tetrachloroethane	50.0			54.1	ug/L		108	(70%-130%)	CDS1	03/10/16	09:08
1,1,1-Trichloroethane	50.0			62.6	ug/L		125	(70%-130%)			
1,1,2,2-Tetrachloroethane	50.0			51.7	ug/L		103	(70%-130%)			
1,1,2-Trichloroethane	50.0			52.0	ug/L		104	(70%-130%)			
1,1-Dichloroethane	50.0			56.8	ug/L		114	(70%-130%)			
1,1-Dichloroethylene	50.0			59.9	ug/L		120	(70%-130%)			
1,2,3-Trichloropropane	50.0			49.9	ug/L		100	(70%-130%)			
1,2-Dibromo-3-chloropropane	50.0			57.7	ug/L		115	(70%-130%)			
1,2-Dibromoethane	50.0			51.5	ug/L		103	(70%-130%)			
1,2-Dichloroethane	50.0			50.1	ug/L		100	(70%-130%)			
1,2-Dichloropropane	50.0			53.5	ug/L		107	(70%-130%)			
1,4-Dichlorobenzene	50.0			54.1	ug/L		108	(70%-130%)			
2-Butanone	250			263	ug/L		105	(70%-130%)			
2-Hexanone	250			276	ug/L		110	(70%-130%)			
4-Methyl-2-pentanone	250			233	ug/L		93	(70%-130%)			
Acetone	250			259	ug/L		104	(70%-130%)			
Acetonitrile	1250			1130	ug/L		90	(70%-130%)			
Benzene	50.0			55.8	ug/L		112	(70%-130%)			
Bromodichloromethane	50.0			55.8	ug/L		112	(70%-130%)			
Bromoform	50.0			55.9	ug/L		112	(70%-130%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	1551213										
Bromomethane	50.0			55.0	ug/L		110	(70%-130%)	CDS1	03/10/16	09:08
Carbon disulfide	250			290	ug/L		116	(70%-130%)			
Carbon tetrachloride	50.0			60.3	ug/L		121	(70%-130%)			
Chlorobenzene	50.0			55.2	ug/L		110	(70%-130%)			
Chloroethane	50.0			60.2	ug/L		120	(70%-130%)			
Chloroform	50.0			53.6	ug/L		107	(70%-130%)			
Chloromethane	50.0			53.8	ug/L		108	(70%-130%)			
Dibromochloromethane	50.0			55.7	ug/L		111	(70%-130%)			
Dibromomethane	50.0			53.3	ug/L		107	(70%-130%)			
Dichlorodifluoromethane	50.0			59.8	ug/L		120	(70%-130%)			
Ethylbenzene	50.0			54.1	ug/L		108	(70%-130%)			
Iodomethane	250			268	ug/L		107	(70%-130%)			
Methylene chloride	50.0			54.2	ug/L		108	(70%-130%)			
Styrene	50.0			52.8	ug/L		106	(70%-130%)			
Tetrachloroethylene	50.0			58.0	ug/L		116	(70%-130%)			
Toluene	50.0			56.7	ug/L		113	(70%-130%)			
Trichloroethylene	50.0			58.8	ug/L		118	(70%-130%)			
Trichlorofluoromethane	50.0			59.7	ug/L		119	(70%-130%)			
Vinyl acetate	250			245	ug/L		98	(70%-130%)			
Vinyl chloride	50.0			57.3	ug/L		115	(70%-130%)			
Xylenes (total)	150			163	ug/L		108	(70%-130%)			

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	1551213										
cis-1,2-Dichloroethylene	50.0			52.2	ug/L		104	(70%-130%)			
cis-1,3-Dichloropropylene	50.0			55.3	ug/L		111	(70%-130%)	CDS1	03/10/16	09:08
trans-1,2-Dichloroethylene	50.0			56.5	ug/L		113	(70%-130%)			
trans-1,3-Dichloropropylene	50.0			57.7	ug/L		115	(70%-130%)			
**1,2-Dichloroethane-d4	50.0			48.3	ug/L		97	(70%-130%)			
**Bromofluorobenzene	50.0			49.2	ug/L		98	(70%-130%)			
**Toluene-d8	50.0			50.9	ug/L		102	(70%-130%)			
QC1203505537 MB											
1,1,1,2-Tetrachloroethane			U	0.300	ug/L					03/10/16	10:09
1,1,1-Trichloroethane			U	0.300	ug/L						
1,1,2,2-Tetrachloroethane			U	0.300	ug/L						
1,1,2-Trichloroethane			U	0.300	ug/L						
1,1-Dichloroethane			U	0.300	ug/L						
1,1-Dichloroethylene			U	0.300	ug/L						
1,2,3-Trichloropropane			U	0.300	ug/L						
1,2-Dibromo-3-chloropropane			U	0.500	ug/L						
1,2-Dibromoethane			U	0.300	ug/L						
1,2-Dichloroethane			U	0.300	ug/L						
1,2-Dichloropropane			U	0.300	ug/L						
1,4-Dichlorobenzene			U	0.300	ug/L						
2-Butanone			U	3.00	ug/L						
2-Chloro-1,3-butadiene			U	0.300	ug/L						
2-Hexanone			U	3.00	ug/L						

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	1551213										
4-Methyl-2-pentanone			U	3.00	ug/L				CDS1	03/10/16	10:09
Acetone			U	3.00	ug/L						
Acetonitrile			U	16.7	ug/L						
Acrolein			U	3.00	ug/L						
Acrylonitrile			U	3.00	ug/L						
Allyl chloride			U	3.00	ug/L						
Benzene			U	0.300	ug/L						
Bromodichloromethane			U	0.300	ug/L						
Bromoform			U	0.300	ug/L						
Bromomethane			U	0.300	ug/L						
Carbon disulfide			U	1.60	ug/L						
Carbon tetrachloride			U	0.300	ug/L						
Chlorobenzene			U	0.300	ug/L						
Chloroethane			U	0.300	ug/L						
Chloroform			U	0.300	ug/L						
Chloromethane			U	0.300	ug/L						
Dibromochloromethane			U	0.300	ug/L						
Dibromomethane			U	0.300	ug/L						
Dichlorodifluoromethane			U	0.300	ug/L						
Ethyl methacrylate			U	3.00	ug/L						
Ethylbenzene			U	0.300	ug/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	1551213										
Iodomethane			U	3.00	ug/L						
Isobutyl alcohol			U	33.0	ug/L				CDS1	03/10/16	10:09
Methacrylonitrile			U	3.00	ug/L						
Methyl methacrylate			U	3.00	ug/L						
Methylene chloride			U	1.60	ug/L						
Propionitrile			U	3.00	ug/L						
Styrene			U	0.300	ug/L						
Tetrachloroethylene			U	0.300	ug/L						
Toluene			U	0.300	ug/L						
Trichloroethylene			U	0.300	ug/L						
Trichlorofluoromethane			U	0.300	ug/L						
Vinyl acetate			U	1.60	ug/L						
Vinyl chloride			U	0.300	ug/L						
Xylenes (total)			U	0.300	ug/L						
cis-1,2-Dichloroethylene			U	0.300	ug/L						
cis-1,3-Dichloropropylene			U	0.300	ug/L						
trans-1,2-Dichloroethylene			U	0.300	ug/L						
trans-1,3-Dichloropropylene			U	0.300	ug/L						
trans-1,4-Dichloro-2-butene			U	1.50	ug/L						
**1,2-Dichloroethane-d4	50.0			50.6	ug/L		101	(70%-130%)			
**Bromofluorobenzene	50.0			47.2	ug/L		94	(70%-130%)			
**Toluene-d8	50.0			51.3	ug/L		103	(70%-130%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	1551213										
QC1203505539	392828001 PS										
1,1,1,2-Tetrachloroethane	50.0	U	0.00		54.7	ug/L	109	(70%-130%)	CDS1	03/10/16	19:16
1,1,1-Trichloroethane	50.0	U	0.00		63.3	ug/L	127	(70%-130%)			
1,1,2,2-Tetrachloroethane	50.0	U	0.00		53.7	ug/L	107	(70%-130%)			
1,1,2-Trichloroethane	50.0	U	0.00		52.7	ug/L	105	(70%-130%)			
1,1-Dichloroethane	50.0	U	0.00		58.0	ug/L	116	(70%-130%)			
1,1-Dichloroethylene	50.0	U	0.00		58.8	ug/L	118	(70%-130%)			
1,2,3-Trichloropropane	50.0	U	0.00		50.7	ug/L	101	(70%-130%)			
1,2-Dibromo-3-chloropropane	50.0	U	0.00		56.4	ug/L	113	(70%-130%)			
1,2-Dibromoethane	50.0	U	0.00		51.4	ug/L	103	(70%-130%)			
1,2-Dichloroethane	50.0	U	0.00		56.3	ug/L	113	(70%-130%)			
1,2-Dichloropropane	50.0	U	0.00		56.7	ug/L	113	(70%-130%)			
1,4-Dichlorobenzene	50.0	U	0.00		50.8	ug/L	102	(70%-130%)			
2-Butanone	250	U	0.00		201	ug/L	80	(70%-130%)			
2-Hexanone	250	U	0.00		192	ug/L	77	(70%-130%)			
4-Methyl-2-pentanone	250	U	0.00		245	ug/L	98	(70%-130%)			
Acetone	250	TU	0.00	T	161	ug/L	64*	(70%-130%)			
Acetonitrile	1250	U	0.00		1290	ug/L	103	(70%-130%)			
Benzene	50.0	U	0.00		56.5	ug/L	113	(70%-130%)			
Bromodichloromethane	50.0	U	0.00		59.5	ug/L	119	(70%-130%)			
Bromoform	50.0	U	0.00		56.2	ug/L	112	(70%-130%)			
Bromomethane	50.0	U	0.00		56.1	ug/L	112	(70%-130%)			
Carbon disulfide	250	U	0.00		286	ug/L	114	(70%-130%)			

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QC Summary

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	1551213										
Carbon tetrachloride	50.0	U	0.00	57.4	ug/L		115	(70%-130%)	CDS1	03/10/16	19:16
Chlorobenzene	50.0	U	0.00	54.1	ug/L		108	(70%-130%)			
Chloroethane	50.0	U	0.00	56.9	ug/L		114	(70%-130%)			
Chloroform	50.0	U	0.00	55.7	ug/L		111	(70%-130%)			
Chloromethane	50.0	U	0.00	53.0	ug/L		106	(70%-130%)			
Dibromochloromethane	50.0	U	0.00	56.1	ug/L		112	(70%-130%)			
Dibromomethane	50.0	U	0.00	56.0	ug/L		112	(70%-130%)			
Dichlorodifluoromethane	50.0	U	0.00	54.5	ug/L		109	(70%-130%)			
Ethylbenzene	50.0	U	0.00	53.2	ug/L		106	(70%-130%)			
Iodomethane	250	U	0.00	266	ug/L		106	(70%-130%)			
Methylene chloride	50.0	U	0.00	55.9	ug/L		112	(70%-130%)			
Styrene	50.0	U	0.00	50.4	ug/L		101	(70%-130%)			
Tetrachloroethylene	50.0	U	0.00	50.4	ug/L		101	(70%-130%)			
Toluene	50.0	U	0.00	55.9	ug/L		112	(70%-130%)			
Trichloroethylene	50.0	U	0.00	58.0	ug/L		116	(70%-130%)			
Trichlorofluoromethane	50.0	U	0.00	53.6	ug/L		107	(70%-130%)			
Vinyl acetate	250	U	0.00	247	ug/L		99	(70%-130%)			
Vinyl chloride	50.0	U	0.00	52.0	ug/L		104	(70%-130%)			
Xylenes (total)	150	U	0.00	155	ug/L		103	(70%-130%)			
cis-1,2-Dichloroethylene	50.0	U	0.00	54.7	ug/L		109	(70%-130%)			
cis-1,3-Dichloropropylene	50.0	U	0.00	59.3	ug/L		119	(70%-130%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	1551213										
trans-1,2-Dichloroethylene	50.0	U	0.00	56.4	ug/L		113	(70%-130%)			
trans-1,3-Dichloropropylene	50.0	U	0.00	58.7	ug/L		117	(70%-130%)	CDS1	03/10/16	19:16
**1,2-Dichloroethane-d4	50.0		53.6	51.6	ug/L		103	(70%-130%)			
**Bromofluorobenzene	50.0		46.1	48.8	ug/L		98	(70%-130%)			
**Toluene-d8	50.0		52.4	52.2	ug/L		104	(70%-130%)			
QC1203505540 392828001 PSD											
1,1,1,2-Tetrachloroethane	50.0	U	0.00	52.9	ug/L	3	106	(0%-20%)		03/10/16	19:46
1,1,1-Trichloroethane	50.0	U	0.00	61.0	ug/L	4	122	(0%-20%)			
1,1,2,2-Tetrachloroethane	50.0	U	0.00	52.9	ug/L	2	106	(0%-20%)			
1,1,2-Trichloroethane	50.0	U	0.00	51.7	ug/L	2	103	(0%-20%)			
1,1-Dichloroethane	50.0	U	0.00	57.5	ug/L	1	115	(0%-20%)			
1,1-Dichloroethylene	50.0	U	0.00	57.0	ug/L	3	114	(0%-20%)			
1,2,3-Trichloropropane	50.0	U	0.00	48.9	ug/L	3	98	(0%-20%)			
1,2-Dibromo-3-chloropropane	50.0	U	0.00	53.6	ug/L	5	107	(0%-20%)			
1,2-Dibromoethane	50.0	U	0.00	50.2	ug/L	2	100	(0%-20%)			
1,2-Dichloroethane	50.0	U	0.00	53.5	ug/L	5	107	(0%-20%)			
1,2-Dichloropropane	50.0	U	0.00	55.9	ug/L	1	112	(0%-20%)			
1,4-Dichlorobenzene	50.0	U	0.00	51.6	ug/L	2	103	(0%-20%)			
2-Butanone	250	U	0.00	180	ug/L	11	72	(0%-20%)			
2-Hexanone	250	U	0.00	178	ug/L	8	71	(0%-20%)			
4-Methyl-2-pentanone	250	U	0.00	226	ug/L	8	90	(0%-20%)			
Acetone	250	TU	0.00	T 147	ug/L	9	59*	(0%-20%)			
Acetonitrile	1250	U	0.00	1140	ug/L	13	91	(0%-20%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	1551213										
Benzene	50.0	U	0.00	55.5	ug/L	2	111	(0%-20%)	CDS1	03/10/16	19:46
Bromodichloromethane	50.0	U	0.00	56.7	ug/L	5	113	(0%-20%)			
Bromoform	50.0	U	0.00	56.3	ug/L	0	113	(0%-20%)			
Bromomethane	50.0	U	0.00	53.7	ug/L	4	107	(0%-20%)			
Carbon disulfide	250	U	0.00	270	ug/L	5	108	(0%-20%)			
Carbon tetrachloride	50.0	U	0.00	57.6	ug/L	0	115	(0%-20%)			
Chlorobenzene	50.0	U	0.00	53.5	ug/L	1	107	(0%-20%)			
Chloroethane	50.0	U	0.00	54.7	ug/L	4	109	(0%-20%)			
Chloroform	50.0	U	0.00	53.7	ug/L	4	107	(0%-20%)			
Chloromethane	50.0	U	0.00	51.6	ug/L	3	103	(0%-20%)			
Dibromochloromethane	50.0	U	0.00	55.1	ug/L	2	110	(0%-20%)			
Dibromomethane	50.0	U	0.00	53.5	ug/L	4	107	(0%-20%)			
Dichlorodifluoromethane	50.0	U	0.00	52.3	ug/L	4	105	(0%-20%)			
Ethylbenzene	50.0	U	0.00	51.9	ug/L	3	104	(0%-20%)			
Iodomethane	250	U	0.00	258	ug/L	3	103	(0%-20%)			
Methylene chloride	50.0	U	0.00	52.8	ug/L	6	106	(0%-20%)			
Styrene	50.0	U	0.00	50.4	ug/L	0	101	(0%-20%)			
Tetrachloroethylene	50.0	U	0.00	51.9	ug/L	3	104	(0%-20%)			
Toluene	50.0	U	0.00	56.7	ug/L	1	113	(0%-20%)			
Trichloroethylene	50.0	U	0.00	56.7	ug/L	2	113	(0%-20%)			
Trichlorofluoromethane	50.0	U	0.00	52.1	ug/L	3	104	(0%-20%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	1551213										
Vinyl acetate	250	U	0.00	245	ug/L	1	98	(0%-20%)			
Vinyl chloride	50.0	U	0.00	47.2	ug/L	10	94	(0%-20%)	CDS1	03/10/16	19:46
Xylenes (total)	150	U	0.00	153	ug/L	1	102	(0%-20%)			
cis-1,2-Dichloroethylene	50.0	U	0.00	54.2	ug/L	1	108	(0%-20%)			
cis-1,3-Dichloropropylene	50.0	U	0.00	58.1	ug/L	2	116	(0%-20%)			
trans-1,2-Dichloroethylene	50.0	U	0.00	55.2	ug/L	2	110	(0%-20%)			
trans-1,3-Dichloropropylene	50.0	U	0.00	56.4	ug/L	4	113	(0%-20%)			
**1,2-Dichloroethane-d4	50.0		53.6	50.0	ug/L		100	(70%-130%)			
**Bromofluorobenzene	50.0		46.1	50.2	ug/L		100	(70%-130%)			
**Toluene-d8	50.0		52.4	51.6	ug/L		103	(70%-130%)			

Notes:

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated
- N Spike Sample recovery is outside control limits.
- P Aroclor target analyte with greater than 25% difference between column analyses.
- T Spike and/or spike duplicate sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- o Analyte failed to recover within LCS limits (Organics only)

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
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N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Surrogate Recovery Report

SDG Number: GEL392828

Matrix Type: LIQUID

Sample ID	Client ID	DCED4 %REC	TOL %REC	BFB %REC
1203505538	LCS for batch 1551213	97	102	98
1203505537	MB for batch 1551213	101	103	94
392828001	B34B45	107	105	92
392828003	B34B46	102	109	93
392828005	B34B57	102	108	91
392828007	B34B79	108	105	91
392828010	B34B80	107	113	95
1203505539	B34B45PS	103	104	98
1203505540	B34B45PSD	100	103	100

Surrogate

DCED4 = 1,2-Dichloroethane-d4

TOL = Toluene-d8

BFB = Bromofluorobenzene

Acceptance Limits

(70%-130%)

(70%-130%)

(70%-130%)

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

Semi-Volatile Analysis

Case Narrative

**GC/MS Semivolatile
Technical Case Narrative
CH2MHill Plateau Remediation Company (CPRC)
SDG #: GEL392828
Work Order #: 392828**

Product: Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry

Analytical Method: SW846 3510C/8270D

Analytical Procedure: GL-OA-E-009 REV# 36

Analytical Batch: 1550975

Preparation Method: SW846 3510C

Preparation Procedure: GL-OA-E-013 REV# 29

Preparation Batch: 1550971

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
392828001	B34B45
392828003	B34B46
392828005	B34B57
392828007	B34B79
392828010	B34B80
1203504898	Method Blank (MB)
1203504899	Laboratory Control Sample (LCS)
1203504904	392828003(B34B46) Matrix Spike (MS)
1203504905	392828003(B34B46) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

CCV Requirements

All Calibration Verification Standards (CCV) did not meet the acceptance criteria as outlined in Method 8270D for samples 392828001 (B34B45), 392828003 (B34B46), 392828005 (B34B57), 392828007 (B34B79) and 392828010 (B34B80) and the associated QC. However, the method allows for a designated number of outliers dependent on the requested analyte list. This SDG satisfied the 8270D outlier acceptance criteria. If required, a CRDL was analyzed after the CCVs to demonstrate that there is adequate sensitivity to detect the failed compounds at the applicable lower quantitation limit. Target analyte Methapyrilene has a positive bias in the CCV.

Quality Control (QC) Information

Surrogate Recoveries

QC and client samples (See Below)) did not meet 70%-130% surrogate recovery acceptance criteria per CPRC request. All surrogates were recovered within GEL SPC limits. The data were reported.

Sample	Analyte	Value
1203504898 (MB)	2-Fluorophenol	46* (70%-130%)
	Phenol-d5	29* (70%-130%)
1203504899 (LCS)	2-Fluorophenol	46* (70%-130%)
	Phenol-d5	30* (70%-130%)
1203504904 (B34B46MS)	2-Fluorophenol	53* (70%-130%)
	Phenol-d5	41* (70%-130%)
1203504905 (B34B46MSD)	2-Fluorophenol	50* (70%-130%)
	Nitrobenzene-d5	69* (70%-130%)
	Phenol-d5	38* (70%-130%)
392828001 (B34B45)	2-Fluorophenol	34* (70%-130%)
	Nitrobenzene-d5	68* (70%-130%)
	Phenol-d5	21* (70%-130%)
392828003 (B34B46)	2-Fluorophenol	38* (70%-130%)
	Phenol-d5	23* (70%-130%)
392828005 (B34B57)	2-Fluorophenol	37* (70%-130%)
	Phenol-d5	22* (70%-130%)
392828007 (B34B79)	2-Fluorophenol	30* (70%-130%)
	Nitrobenzene-d5	64* (70%-130%)
	Phenol-d5	18* (70%-130%)
392828010 (B34B80)	2-Fluorophenol	37* (70%-130%)
	Phenol-d5	22* (70%-130%)

Laboratory Control Sample (LCS) Recovery

The LCS (See Below) did not meet 70%-130% spike recovery acceptance criteria per CPRC request for some target analytes. Each of these analytes were recovered within GEL’s SPC limits. The data were reported.

Sample	Analyte	Value
1203504899 (LCS)	Several	See applicable report

MS/MSD Relative Percent Difference (RPD) Statement

The relative percent difference (RPD) between the MS and MSD (See Below) did not meet acceptance limits. As the individual MS and MSD recoveries were within the acceptance limits, the failures had no adverse impact on the reported sample data.

Sample	Analyte	Value
1203504904MS and 1203504905MSD (B34B46)	Dibenzo(a,h)anthracene and Indeno(1,2,3-cd)pyrene	22* (0%-20%)

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**Qualifier Definition Report
for**

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL392828 GEL Work Order: 392828

The Qualifiers in this report are defined as follows:

- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- DL Indicates that sample is diluted.
- RA Indicates that sample is re-analyzed without re-extraction.
- RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: Barbara Bailey

Date: 04 APR 2016

Title: Data Validator

Sample Data Summary

Semi-Volatile
Certificate of Analysis
Sample Summary

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SDG Number:	GEL392828	Date Collected:	03/08/2016 06:30	Matrix:	WATER
Lab Sample ID:	392828001	Date Received:	03/09/2016 10:20	Client:	CPRC001
Client ID:	B34B45	Method:	SW846 3510C/8270D	Project:	CPRC0W16003
Batch ID:	1550975	Inst:	MSD4.I	SOP Ref:	GL-OA-E-009
Run Date:	03/11/2016 14:26	Analyst:	JMB3	Dilution:	1
Prep Date:	03/10/2016 16:50	Aliquot:	1070 mL	Inj. Vol:	1 uL
Data File:	s031116.B\s4c1113.D	Column:	DB-5ms	Final Volume:	1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-94-3	1,2,4,5-Tetrachlorobenzene	U	2.80	ug/L	2.80	9.35
120-82-1	1,2,4-Trichlorobenzene	U	2.80	ug/L	2.80	9.35
95-50-1	1,2-Dichlorobenzene	U	2.80	ug/L	2.80	9.35
99-35-4	1,3,5-Trinitrobenzene	U	2.80	ug/L	2.80	9.35
541-73-1	1,3-Dichlorobenzene	U	2.80	ug/L	2.80	9.35
106-46-7	1,4-Dichlorobenzene	U	2.80	ug/L	2.80	9.35
123-91-1	1,4-Dioxane	U	2.80	ug/L	2.80	9.35
130-15-4	1,4-Naphthoquinone	U	2.80	ug/L	2.80	9.35
134-32-7	1-Naphthylamine	U	2.80	ug/L	2.80	9.35
58-90-2	2,3,4,6-Tetrachlorophenol	U	2.80	ug/L	2.80	9.35
95-95-4	2,4,5-Trichlorophenol	U	2.80	ug/L	2.80	9.35
88-06-2	2,4,6-Trichlorophenol	U	2.80	ug/L	2.80	9.35
120-83-2	2,4-Dichlorophenol	U	2.80	ug/L	2.80	9.35
105-67-9	2,4-Dimethylphenol	U	2.80	ug/L	2.80	9.35
51-28-5	2,4-Dinitrophenol	U	4.67	ug/L	4.67	18.7
121-14-2	2,4-Dinitrotoluene	U	2.80	ug/L	2.80	9.35
87-65-0	2,6-Dichlorophenol	U	2.80	ug/L	2.80	9.35
606-20-2	2,6-Dinitrotoluene	U	2.80	ug/L	2.80	9.35
53-96-3	2-Acetylaminofluorene	U	2.80	ug/L	2.80	9.35
91-58-7	2-Chloronaphthalene	U	0.383	ug/L	0.383	0.935
95-57-8	2-Chlorophenol	U	2.80	ug/L	2.80	9.35
534-52-1	2-Methyl-4,6-dinitrophenol	U	2.80	ug/L	2.80	9.35
91-57-6	2-Methylnaphthalene	U	0.280	ug/L	0.280	0.935
91-59-8	2-Naphthylamine	U	2.80	ug/L	2.80	9.35
88-75-5	2-Nitrophenol	U	2.80	ug/L	2.80	9.35
109-06-8	2-Picoline	U	2.80	ug/L	2.80	9.35
91-94-1	3,3'-Dichlorobenzidine	U	2.80	ug/L	2.80	9.35
119-93-7	3,3'-Dimethylbenzidine	U	3.08	ug/L	3.08	9.35
56-49-5	3-Methylcholanthrene	U	2.80	ug/L	2.80	9.35
92-67-1	4-Aminobiphenyl	U	2.80	ug/L	2.80	9.35
101-55-3	4-Bromophenylphenylether	U	2.80	ug/L	2.80	9.35
59-50-7	4-Chloro-3-methylphenol	U	2.80	ug/L	2.80	9.35
106-47-8	4-Chloroaniline	U	3.08	ug/L	3.08	9.35
7005-72-3	4-Chlorophenylphenylether	U	2.80	ug/L	2.80	9.35
100-02-7	4-Nitrophenol	U	2.80	ug/L	2.80	9.35
56-57-5	4-Nitroquinoline-1-oxide	U	3.55	ug/L	3.55	9.35
99-55-8	5-Nitro-o-toluidine	U	2.80	ug/L	2.80	9.35
57-97-6	7,12-Dimethylbenz(a)anthracene	U	2.80	ug/L	2.80	9.35
	<i>7,12Dimethylbenz(a)anthracene</i>					

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Sample Summary

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SDG Number:	GEL392828	Date Collected:	03/08/2016 06:30	Matrix:	WATER
Lab Sample ID:	392828001	Date Received:	03/09/2016 10:20	Client:	CPRC001
Client ID:	B34B45	Method:	SW846 3510C/8270D	Project:	CPRC0W16003
Batch ID:	1550975	Inst:	MSD4.I	SOP Ref:	GL-OA-E-009
Run Date:	03/11/2016 14:26	Analyst:	JMB3	Dilution:	1
Prep Date:	03/10/2016 16:50	Aliquot:	1070 mL	Inj. Vol:	1 uL
Data File:	s031116.B\s4c1113.D	Column:	DB-5ms	Final Volume:	1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
83-32-9	Acenaphthene	U	0.280	ug/L	0.280	0.935
208-96-8	Acenaphthylene	U	0.280	ug/L	0.280	0.935
98-86-2	Acetophenone	U	2.80	ug/L	2.80	9.35
62-53-3	Aniline	U	3.93	ug/L	3.93	9.35
120-12-7	Anthracene	U	0.280	ug/L	0.280	0.935
140-57-8	Aramite	U	3.46	ug/L	3.46	9.35
56-55-3	Benzo(a)anthracene	U	0.280	ug/L	0.280	0.935
50-32-8	Benzo(a)pyrene	U	0.280	ug/L	0.280	0.935
205-99-2	Benzo(b)fluoranthene	U	0.280	ug/L	0.280	0.935
191-24-2	Benzo(ghi)perylene	J	0.402	ug/L	0.280	0.935
207-08-9	Benzo(k)fluoranthene	U	0.280	ug/L	0.280	0.935
100-51-6	Benzyl alcohol	U	2.80	ug/L	2.80	9.35
85-68-7	Butylbenzylphthalate	U	2.80	ug/L	2.80	9.35
86-74-8	Carbazole	U	0.280	ug/L	0.280	0.935
510-15-6	Chlorobenzilate	U	2.80	ug/L	2.80	9.35
218-01-9	Chrysene	U	0.280	ug/L	0.280	0.935
84-74-2	Di-n-butylphthalate	U	2.80	ug/L	2.80	9.35
117-84-0	Di-n-octylphthalate	U	2.80	ug/L	2.80	9.35
2303-16-4	Diallate	U	2.80	ug/L	2.80	9.35
53-70-3	Dibenzo(a,h)anthracene	J	0.421	ug/L	0.280	0.935
132-64-9	Dibenzofuran	U	2.80	ug/L	2.80	9.35
84-66-2	Diethylphthalate	U	2.80	ug/L	2.80	9.35
60-51-5	Dimethoate	U	2.80	ug/L	2.80	9.35
131-11-3	Dimethylphthalate	U	2.80	ug/L	2.80	9.35
88-85-7	Dinoseb	U	2.80	ug/L	2.80	9.35
298-04-4	Disulfoton	U	2.80	ug/L	2.80	9.35
62-50-0	Ethyl Methanesulfonate	U	2.80	ug/L	2.80	9.35
52-85-7	Famphur	U	4.67	ug/L	4.67	9.35
206-44-0	Fluoranthene	U	0.280	ug/L	0.280	0.935
86-73-7	Fluorene	U	0.280	ug/L	0.280	0.935
118-74-1	Hexachlorobenzene	U	2.80	ug/L	2.80	9.35
87-68-3	Hexachlorobutadiene	U	2.80	ug/L	2.80	9.35
77-47-4	Hexachlorocyclopentadiene	U	2.80	ug/L	2.80	9.35
67-72-1	Hexachloroethane	U	2.80	ug/L	2.80	9.35
70-30-4	Hexachlorophene	U	156	ug/L	156	467
1888-71-7	Hexachloropropene	U	2.80	ug/L	2.80	9.35
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.280	ug/L	0.280	0.935
465-73-6	Isodrin	U	2.80	ug/L	2.80	9.35

Semi-Volatile
Certificate of Analysis
Sample Summary

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SDG Number: GEL392828	Date Collected: 03/08/2016 06:30	Matrix: WATER
Lab Sample ID: 392828001	Date Received: 03/09/2016 10:20	
Client ID: B34B45	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1550975	Method: SW846 3510C/8270D	SOP Ref: GL-OA-E-009
Run Date: 03/11/2016 14:26	Inst: MSD4.I	Dilution: 1
Prep Date: 03/10/2016 16:50	Analyst: JMB3	Inj. Vol: 1 uL
Data File: s031116.B\s4c1113.D	Aliquot: 1070 mL	Final Volume: 1 mL
	Column: DB-5ms	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
78-59-1	Isophorone	U	3.27	ug/L	3.27	9.35
120-58-1	Isosafrole	U	2.80	ug/L	2.80	9.35
143-50-0	Kepone	U	2.80	ug/L	2.80	9.35
91-80-5	Methapyrilene	U	2.80	ug/L	2.80	9.35
66-27-3	Methyl methanesulfonate	U	2.80	ug/L	2.80	9.35
298-00-0	Methyl parathion	U	2.80	ug/L	2.80	9.35
62-75-9	N-Methyl-N-nitrosomethylamine	U	2.80	ug/L	2.80	9.35
924-16-3	N-Nitrosodi-n-butylamine	U	2.80	ug/L	2.80	9.35
55-18-5	N-Nitrosodiethylamine	U	2.80	ug/L	2.80	9.35
621-64-7	N-Nitrosodipropylamine	U	2.80	ug/L	2.80	9.35
10595-95-6	N-Nitrosomethylethylamine	U	2.80	ug/L	2.80	9.35
59-89-2	N-Nitrosomorpholine	U	2.80	ug/L	2.80	9.35
100-75-4	N-Nitrosopiperidine	U	2.80	ug/L	2.80	9.35
930-55-2	N-Nitrosopyrrolidine	U	2.80	ug/L	2.80	9.35
91-20-3	Naphthalene	U	0.280	ug/L	0.280	0.935
98-95-3	Nitrobenzene	U	2.80	ug/L	2.80	9.35
56-38-2	Parathion	U	2.80	ug/L	2.80	9.35
608-93-5	Pentachlorobenzene	U	2.80	ug/L	2.80	9.35
76-01-7	Pentachloroethane	U	2.80	ug/L	2.80	9.35
82-68-8	Pentachloronitrobenzene	U	3.18	ug/L	3.18	9.35
87-86-5	Pentachlorophenol	U	2.80	ug/L	2.80	9.35
62-44-2	Phenacetin	U	2.80	ug/L	2.80	9.35
85-01-8	Phenanthrene	U	0.280	ug/L	0.280	0.935
108-95-2	Phenol	U	2.80	ug/L	2.80	9.35
298-02-2	Phorate	U	2.80	ug/L	2.80	9.35
23950-58-5	Pronamide	U	2.80	ug/L	2.80	9.35
129-00-0	Pyrene	U	0.280	ug/L	0.280	0.935
110-86-1	Pyridine	U	2.80	ug/L	2.80	9.35
94-59-7	Safrole	U	2.80	ug/L	2.80	9.35
3689-24-5	Sulfotepp	U	2.80	ug/L	2.80	9.35
297-97-2	Thionazin	U	2.80	ug/L	2.80	9.35
126-73-8	Tributylphosphate	U	2.80	ug/L	2.80	9.35
126-68-1	Triethylphosphorothioate	U	2.80	ug/L	2.80	9.35
122-09-8	a,a-Dimethylphenethylamine	U	5.05	ug/L	5.05	9.35
108-60-1	bis(2-Chloro-1-methylethyl)ether	U	2.80	ug/L	2.80	9.35
111-91-1	bis(2-Chloroethoxy)methane	U	2.80	ug/L	2.80	9.35
111-44-4	bis(2-Chloroethyl) ether	U	2.80	ug/L	2.80	9.35
117-81-7	bis(2-Ethylhexyl)phthalate	U	2.80	ug/L	2.80	9.35

Semi-Volatile
Certificate of Analysis
Sample Summary

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SDG Number:	GEL392828	Date Collected:	03/08/2016 06:30	Matrix:	WATER
Lab Sample ID:	392828001	Date Received:	03/09/2016 10:20	Client:	CPRC001
Client ID:	B34B45	Method:	SW846 3510C/8270D	Project:	CPRC0W16003
Batch ID:	1550975	Inst:	MSD4.I	SOP Ref:	GL-OA-E-009
Run Date:	03/11/2016 14:26	Analyst:	JMB3	Dilution:	1
Prep Date:	03/10/2016 16:50	Aliquot:	1070 mL	Inj. Vol:	1 uL
Data File:	s031116.B\4c1113.D	Column:	DB-5ms	Final Volume:	1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
DPA+NNDPA 122-39-4	diphenylamine+N-nitrosodiphenylan <i>Diphenylamine</i>	U	2.80	ug/L	2.80	9.35
65794-96-9	m,p-Cresols	U	3.46	ug/L	3.46	9.35
99-65-0	m-Dinitrobenzene	U	2.80	ug/L	2.80	9.35
99-09-2	m-Nitroaniline	U	2.80	ug/L	2.80	9.35
95-48-7	o-Cresol	U	2.80	ug/L	2.80	9.35
88-74-4	o-Nitroaniline	U	2.80	ug/L	2.80	9.35
95-53-4	o-Toluidine	U	2.80	ug/L	2.80	9.35
60-11-7	p-(Dimethylamino)azobenzene	U	2.80	ug/L	2.80	9.35
100-01-6	p-Nitroaniline	U	2.80	ug/L	2.80	9.35
106-50-3	p-Phenylenediamine	U	93.5	ug/L	93.5	467

Semi-Volatile
Certificate of Analysis
Sample Summary

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SDG Number:	GEL392828	Date Collected:	03/08/2016 09:43	Matrix:	WATER
Lab Sample ID:	392828003	Date Received:	03/09/2016 10:20	Client:	CPRC001
Client ID:	B34B46	Method:	SW846 3510C/8270D	Project:	CPRC0W16003
Batch ID:	1550975	Inst:	MSD4.I	SOP Ref:	GL-OA-E-009
Run Date:	03/11/2016 13:00	Analyst:	JMB3	Dilution:	1
Prep Date:	03/10/2016 16:50	Aliquot:	1130 mL	Inj. Vol:	1 uL
Data File:	s031116.B\s4c1110.D	Column:	DB-5ms	Final Volume:	1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-94-3	1,2,4,5-Tetrachlorobenzene	U	2.65	ug/L	2.65	8.85
120-82-1	1,2,4-Trichlorobenzene	U	2.65	ug/L	2.65	8.85
95-50-1	1,2-Dichlorobenzene	U	2.65	ug/L	2.65	8.85
99-35-4	1,3,5-Trinitrobenzene	U	2.65	ug/L	2.65	8.85
541-73-1	1,3-Dichlorobenzene	U	2.65	ug/L	2.65	8.85
106-46-7	1,4-Dichlorobenzene	U	2.65	ug/L	2.65	8.85
123-91-1	1,4-Dioxane	U	2.65	ug/L	2.65	8.85
130-15-4	1,4-Naphthoquinone	U	2.65	ug/L	2.65	8.85
134-32-7	1-Naphthylamine	U	2.65	ug/L	2.65	8.85
58-90-2	2,3,4,6-Tetrachlorophenol	U	2.65	ug/L	2.65	8.85
95-95-4	2,4,5-Trichlorophenol	U	2.65	ug/L	2.65	8.85
88-06-2	2,4,6-Trichlorophenol	U	2.65	ug/L	2.65	8.85
120-83-2	2,4-Dichlorophenol	U	2.65	ug/L	2.65	8.85
105-67-9	2,4-Dimethylphenol	U	2.65	ug/L	2.65	8.85
51-28-5	2,4-Dinitrophenol	U	4.42	ug/L	4.42	17.7
121-14-2	2,4-Dinitrotoluene	U	2.65	ug/L	2.65	8.85
87-65-0	2,6-Dichlorophenol	U	2.65	ug/L	2.65	8.85
606-20-2	2,6-Dinitrotoluene	U	2.65	ug/L	2.65	8.85
53-96-3	2-Acetylaminofluorene	U	2.65	ug/L	2.65	8.85
91-58-7	2-Chloronaphthalene	U	0.363	ug/L	0.363	0.885
95-57-8	2-Chlorophenol	U	2.65	ug/L	2.65	8.85
534-52-1	2-Methyl-4,6-dinitrophenol	U	2.65	ug/L	2.65	8.85
91-57-6	2-Methylnaphthalene	U	0.265	ug/L	0.265	0.885
91-59-8	2-Naphthylamine	U	2.65	ug/L	2.65	8.85
88-75-5	2-Nitrophenol	U	2.65	ug/L	2.65	8.85
109-06-8	2-Picoline	U	2.65	ug/L	2.65	8.85
91-94-1	3,3'-Dichlorobenzidine	U	2.65	ug/L	2.65	8.85
119-93-7	3,3'-Dimethylbenzidine	U	2.92	ug/L	2.92	8.85
56-49-5	3-Methylcholanthrene	U	2.65	ug/L	2.65	8.85
92-67-1	4-Aminobiphenyl	U	2.65	ug/L	2.65	8.85
101-55-3	4-Bromophenylphenylether	U	2.65	ug/L	2.65	8.85
59-50-7	4-Chloro-3-methylphenol	U	2.65	ug/L	2.65	8.85
106-47-8	4-Chloroaniline	U	2.92	ug/L	2.92	8.85
7005-72-3	4-Chlorophenylphenylether	U	2.65	ug/L	2.65	8.85
100-02-7	4-Nitrophenol	U	2.65	ug/L	2.65	8.85
56-57-5	4-Nitroquinoline-1-oxide	U	3.36	ug/L	3.36	8.85
99-55-8	5-Nitro-o-toluidine	U	2.65	ug/L	2.65	8.85
57-97-6	7,12-Dimethylbenz(a)anthracene	U	2.65	ug/L	2.65	8.85
	<i>7,12Dimethylbenz(a)anthracene</i>					

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SDG Number: GEL392828	Date Collected: 03/08/2016 09:43	Matrix: WATER
Lab Sample ID: 392828003	Date Received: 03/09/2016 10:20	
Client ID: B34B46	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1550975	Method: SW846 3510C/8270D	SOP Ref: GL-OA-E-009
Run Date: 03/11/2016 13:00	Inst: MSD4.I	Dilution: 1
Prep Date: 03/10/2016 16:50	Analyst: JMB3	Inj. Vol: 1 uL
Data File: s031116.B\s4c1110.D	Aliquot: 1130 mL	Final Volume: 1 mL
	Column: DB-5ms	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
83-32-9	Acenaphthene	U	0.265	ug/L	0.265	0.885
208-96-8	Acenaphthylene	U	0.265	ug/L	0.265	0.885
98-86-2	Acetophenone	U	2.65	ug/L	2.65	8.85
62-53-3	Aniline	U	3.72	ug/L	3.72	8.85
120-12-7	Anthracene	U	0.265	ug/L	0.265	0.885
140-57-8	Aramite	U	3.27	ug/L	3.27	8.85
56-55-3	Benzo(a)anthracene	U	0.265	ug/L	0.265	0.885
50-32-8	Benzo(a)pyrene	U	0.265	ug/L	0.265	0.885
205-99-2	Benzo(b)fluoranthene	U	0.265	ug/L	0.265	0.885
191-24-2	Benzo(ghi)perylene	J	0.274	ug/L	0.265	0.885
207-08-9	Benzo(k)fluoranthene	U	0.265	ug/L	0.265	0.885
100-51-6	Benzyl alcohol	U	2.65	ug/L	2.65	8.85
85-68-7	Butylbenzylphthalate	U	2.65	ug/L	2.65	8.85
86-74-8	Carbazole	U	0.265	ug/L	0.265	0.885
510-15-6	Chlorobenzilate	U	2.65	ug/L	2.65	8.85
218-01-9	Chrysene	U	0.265	ug/L	0.265	0.885
84-74-2	Di-n-butylphthalate	U	2.65	ug/L	2.65	8.85
117-84-0	Di-n-octylphthalate	U	2.65	ug/L	2.65	8.85
2303-16-4	Diallate	U	2.65	ug/L	2.65	8.85
53-70-3	Dibenzo(a,h)anthracene	J	0.292	ug/L	0.265	0.885
132-64-9	Dibenzofuran	U	2.65	ug/L	2.65	8.85
84-66-2	Diethylphthalate	U	2.65	ug/L	2.65	8.85
60-51-5	Dimethoate	U	2.65	ug/L	2.65	8.85
131-11-3	Dimethylphthalate	U	2.65	ug/L	2.65	8.85
88-85-7	Dinoseb	U	2.65	ug/L	2.65	8.85
298-04-4	Disulfoton	U	2.65	ug/L	2.65	8.85
62-50-0	Ethyl Methanesulfonate	U	2.65	ug/L	2.65	8.85
52-85-7	Famphur	U	4.42	ug/L	4.42	8.85
206-44-0	Fluoranthene	U	0.265	ug/L	0.265	0.885
86-73-7	Fluorene	U	0.265	ug/L	0.265	0.885
118-74-1	Hexachlorobenzene	U	2.65	ug/L	2.65	8.85
87-68-3	Hexachlorobutadiene	U	2.65	ug/L	2.65	8.85
77-47-4	Hexachlorocyclopentadiene	U	2.65	ug/L	2.65	8.85
67-72-1	Hexachloroethane	U	2.65	ug/L	2.65	8.85
70-30-4	Hexachlorophene	U	148	ug/L	148	442
1888-71-7	Hexachloropropene	U	2.65	ug/L	2.65	8.85
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.265	ug/L	0.265	0.885
465-73-6	Isodrin	U	2.65	ug/L	2.65	8.85

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SDG Number: GEL392828	Date Collected: 03/08/2016 09:43	Matrix: WATER
Lab Sample ID: 392828003	Date Received: 03/09/2016 10:20	
Client ID: B34B46	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1550975	Method: SW846 3510C/8270D	SOP Ref: GL-OA-E-009
Run Date: 03/11/2016 13:00	Inst: MSD4.I	Dilution: 1
Prep Date: 03/10/2016 16:50	Analyst: JMB3	Inj. Vol: 1 uL
Data File: s031116.B\s4c1110.D	Aliquot: 1130 mL	Final Volume: 1 mL
	Column: DB-5ms	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
78-59-1	Isophorone	U	3.10	ug/L	3.10	8.85
120-58-1	Isosafrole	U	2.65	ug/L	2.65	8.85
143-50-0	Kepone	U	2.65	ug/L	2.65	8.85
91-80-5	Methapyrilene	U	2.65	ug/L	2.65	8.85
66-27-3	Methyl methanesulfonate	U	2.65	ug/L	2.65	8.85
298-00-0	Methyl parathion	U	2.65	ug/L	2.65	8.85
62-75-9	N-Methyl-N-nitrosomethylamine	U	2.65	ug/L	2.65	8.85
924-16-3	N-Nitrosodi-n-butylamine	U	2.65	ug/L	2.65	8.85
55-18-5	N-Nitrosodiethylamine	U	2.65	ug/L	2.65	8.85
621-64-7	N-Nitrosodipropylamine	U	2.65	ug/L	2.65	8.85
10595-95-6	N-Nitrosomethylethylamine	U	2.65	ug/L	2.65	8.85
59-89-2	N-Nitrosomorpholine	U	2.65	ug/L	2.65	8.85
100-75-4	N-Nitrosopiperidine	U	2.65	ug/L	2.65	8.85
930-55-2	N-Nitrosopyrrolidine	U	2.65	ug/L	2.65	8.85
91-20-3	Naphthalene	U	0.265	ug/L	0.265	0.885
98-95-3	Nitrobenzene	U	2.65	ug/L	2.65	8.85
56-38-2	Parathion	U	2.65	ug/L	2.65	8.85
608-93-5	Pentachlorobenzene	U	2.65	ug/L	2.65	8.85
76-01-7	Pentachloroethane	U	2.65	ug/L	2.65	8.85
82-68-8	Pentachloronitrobenzene	U	3.01	ug/L	3.01	8.85
87-86-5	Pentachlorophenol	U	2.65	ug/L	2.65	8.85
62-44-2	Phenacetin	U	2.65	ug/L	2.65	8.85
85-01-8	Phenanthrene	U	0.265	ug/L	0.265	0.885
108-95-2	Phenol	U	2.65	ug/L	2.65	8.85
298-02-2	Phorate	U	2.65	ug/L	2.65	8.85
23950-58-5	Pronamide	U	2.65	ug/L	2.65	8.85
129-00-0	Pyrene	U	0.265	ug/L	0.265	0.885
110-86-1	Pyridine	U	2.65	ug/L	2.65	8.85
94-59-7	Safrole	U	2.65	ug/L	2.65	8.85
3689-24-5	Sulfotepp	U	2.65	ug/L	2.65	8.85
297-97-2	Thionazin	U	2.65	ug/L	2.65	8.85
126-73-8	Tributylphosphate	U	2.65	ug/L	2.65	8.85
126-68-1	Triethylphosphorothioate	U	2.65	ug/L	2.65	8.85
122-09-8	a,a-Dimethylphenethylamine	U	4.78	ug/L	4.78	8.85
108-60-1	bis(2-Chloro-1-methylethyl)ether	U	2.65	ug/L	2.65	8.85
111-91-1	bis(2-Chloroethoxy)methane	U	2.65	ug/L	2.65	8.85
111-44-4	bis(2-Chloroethyl) ether	U	2.65	ug/L	2.65	8.85
117-81-7	bis(2-Ethylhexyl)phthalate	U	2.65	ug/L	2.65	8.85

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SDG Number:	GEL392828	Date Collected:	03/08/2016 09:43	Matrix:	WATER
Lab Sample ID:	392828003	Date Received:	03/09/2016 10:20		
Client ID:	B34B46	Client:	CPRC001	Project:	CPRC0W16003
Batch ID:	1550975	Method:	SW846 3510C/8270D	SOP Ref:	GL-OA-E-009
Run Date:	03/11/2016 13:00	Inst:	MSD4.I	Dilution:	1
Prep Date:	03/10/2016 16:50	Analyst:	JMB3	Inj. Vol:	1 uL
Data File:	s031116.B\s4c1110.D	Aliquot:	1130 mL	Final Volume:	1 mL
		Column:	DB-5ms		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
DPA+NNDPA 122-39-4	diphenylamine+N-nitrosodiphenylan <i>Diphenylamine</i>	U	2.65	ug/L	2.65	8.85
65794-96-9	m,p-Cresols	U	3.27	ug/L	3.27	8.85
99-65-0	m-Dinitrobenzene	U	2.65	ug/L	2.65	8.85
99-09-2	m-Nitroaniline	U	2.65	ug/L	2.65	8.85
95-48-7	o-Cresol	U	2.65	ug/L	2.65	8.85
88-74-4	o-Nitroaniline	U	2.65	ug/L	2.65	8.85
95-53-4	o-Toluidine	U	2.65	ug/L	2.65	8.85
60-11-7	p-(Dimethylamino)azobenzene	U	2.65	ug/L	2.65	8.85
100-01-6	p-Nitroaniline	U	2.65	ug/L	2.65	8.85
106-50-3	p-Phenylenediamine	U	88.5	ug/L	88.5	442

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SDG Number:	GEL392828	Date Collected:	03/08/2016 12:15	Matrix:	WATER
Lab Sample ID:	392828005	Date Received:	03/09/2016 10:20	Client:	CPRC001
Client ID:	B34B57	Method:	SW846 3510C/8270D	Project:	CPRC0W16003
Batch ID:	1550975	Inst:	MSD4.I	SOP Ref:	GL-OA-E-009
Run Date:	03/11/2016 14:54	Analyst:	JMB3	Dilution:	1
Prep Date:	03/10/2016 16:50	Aliquot:	1060 mL	Inj. Vol:	1 uL
Data File:	s031116.B\s4c1114.D	Column:	DB-5ms	Final Volume:	1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-94-3	1,2,4,5-Tetrachlorobenzene	U	2.83	ug/L	2.83	9.43
120-82-1	1,2,4-Trichlorobenzene	U	2.83	ug/L	2.83	9.43
95-50-1	1,2-Dichlorobenzene	U	2.83	ug/L	2.83	9.43
99-35-4	1,3,5-Trinitrobenzene	U	2.83	ug/L	2.83	9.43
541-73-1	1,3-Dichlorobenzene	U	2.83	ug/L	2.83	9.43
106-46-7	1,4-Dichlorobenzene	U	2.83	ug/L	2.83	9.43
123-91-1	1,4-Dioxane	U	2.83	ug/L	2.83	9.43
130-15-4	1,4-Naphthoquinone	U	2.83	ug/L	2.83	9.43
134-32-7	1-Naphthylamine	U	2.83	ug/L	2.83	9.43
58-90-2	2,3,4,6-Tetrachlorophenol	U	2.83	ug/L	2.83	9.43
95-95-4	2,4,5-Trichlorophenol	U	2.83	ug/L	2.83	9.43
88-06-2	2,4,6-Trichlorophenol	U	2.83	ug/L	2.83	9.43
120-83-2	2,4-Dichlorophenol	U	2.83	ug/L	2.83	9.43
105-67-9	2,4-Dimethylphenol	U	2.83	ug/L	2.83	9.43
51-28-5	2,4-Dinitrophenol	U	4.72	ug/L	4.72	18.9
121-14-2	2,4-Dinitrotoluene	U	2.83	ug/L	2.83	9.43
87-65-0	2,6-Dichlorophenol	U	2.83	ug/L	2.83	9.43
606-20-2	2,6-Dinitrotoluene	U	2.83	ug/L	2.83	9.43
53-96-3	2-Acetylaminofluorene	U	2.83	ug/L	2.83	9.43
91-58-7	2-Chloronaphthalene	U	0.387	ug/L	0.387	0.943
95-57-8	2-Chlorophenol	U	2.83	ug/L	2.83	9.43
534-52-1	2-Methyl-4,6-dinitrophenol	U	2.83	ug/L	2.83	9.43
91-57-6	2-Methylnaphthalene	U	0.283	ug/L	0.283	0.943
91-59-8	2-Naphthylamine	U	2.83	ug/L	2.83	9.43
88-75-5	2-Nitrophenol	U	2.83	ug/L	2.83	9.43
109-06-8	2-Picoline	U	2.83	ug/L	2.83	9.43
91-94-1	3,3'-Dichlorobenzidine	U	2.83	ug/L	2.83	9.43
119-93-7	3,3'-Dimethylbenzidine	U	3.11	ug/L	3.11	9.43
56-49-5	3-Methylcholanthrene	U	2.83	ug/L	2.83	9.43
92-67-1	4-Aminobiphenyl	U	2.83	ug/L	2.83	9.43
101-55-3	4-Bromophenylphenylether	U	2.83	ug/L	2.83	9.43
59-50-7	4-Chloro-3-methylphenol	U	2.83	ug/L	2.83	9.43
106-47-8	4-Chloroaniline	U	3.11	ug/L	3.11	9.43
7005-72-3	4-Chlorophenylphenylether	U	2.83	ug/L	2.83	9.43
100-02-7	4-Nitrophenol	U	2.83	ug/L	2.83	9.43
56-57-5	4-Nitroquinoline-1-oxide	U	3.58	ug/L	3.58	9.43
99-55-8	5-Nitro-o-toluidine	U	2.83	ug/L	2.83	9.43
57-97-6	7,12-Dimethylbenz(a)anthracene	U	2.83	ug/L	2.83	9.43
	<i>7,12Dimethylbenz(a)anthracene</i>					

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SDG Number: GEL392828	Date Collected: 03/08/2016 12:15	Matrix: WATER
Lab Sample ID: 392828005	Date Received: 03/09/2016 10:20	
Client ID: B34B57	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1550975	Method: SW846 3510C/8270D	SOP Ref: GL-OA-E-009
Run Date: 03/11/2016 14:54	Inst: MSD4.I	Dilution: 1
Prep Date: 03/10/2016 16:50	Analyst: JMB3	Inj. Vol: 1 uL
Data File: s031116.B\s4c1114.D	Aliquot: 1060 mL	Final Volume: 1 mL
	Column: DB-5ms	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
83-32-9	Acenaphthene	U	0.283	ug/L	0.283	0.943
208-96-8	Acenaphthylene	U	0.283	ug/L	0.283	0.943
98-86-2	Acetophenone	U	2.83	ug/L	2.83	9.43
62-53-3	Aniline	U	3.96	ug/L	3.96	9.43
120-12-7	Anthracene	U	0.283	ug/L	0.283	0.943
140-57-8	Aramite	U	3.49	ug/L	3.49	9.43
56-55-3	Benzo(a)anthracene	U	0.283	ug/L	0.283	0.943
50-32-8	Benzo(a)pyrene	U	0.283	ug/L	0.283	0.943
205-99-2	Benzo(b)fluoranthene	U	0.283	ug/L	0.283	0.943
191-24-2	Benzo(ghi)perylene	J	0.358	ug/L	0.283	0.943
207-08-9	Benzo(k)fluoranthene	U	0.283	ug/L	0.283	0.943
100-51-6	Benzyl alcohol	U	2.83	ug/L	2.83	9.43
85-68-7	Butylbenzylphthalate	U	2.83	ug/L	2.83	9.43
86-74-8	Carbazole	U	0.283	ug/L	0.283	0.943
510-15-6	Chlorobenzilate	U	2.83	ug/L	2.83	9.43
218-01-9	Chrysene	U	0.283	ug/L	0.283	0.943
84-74-2	Di-n-butylphthalate	U	2.83	ug/L	2.83	9.43
117-84-0	Di-n-octylphthalate	U	2.83	ug/L	2.83	9.43
2303-16-4	Diallate	U	2.83	ug/L	2.83	9.43
53-70-3	Dibenzo(a,h)anthracene	J	0.349	ug/L	0.283	0.943
132-64-9	Dibenzofuran	U	2.83	ug/L	2.83	9.43
84-66-2	Diethylphthalate	U	2.83	ug/L	2.83	9.43
60-51-5	Dimethoate	U	2.83	ug/L	2.83	9.43
131-11-3	Dimethylphthalate	U	2.83	ug/L	2.83	9.43
88-85-7	Dinoseb	U	2.83	ug/L	2.83	9.43
298-04-4	Disulfoton	U	2.83	ug/L	2.83	9.43
62-50-0	Ethyl Methanesulfonate	U	2.83	ug/L	2.83	9.43
52-85-7	Famphur	U	4.72	ug/L	4.72	9.43
206-44-0	Fluoranthene	U	0.283	ug/L	0.283	0.943
86-73-7	Fluorene	U	0.283	ug/L	0.283	0.943
118-74-1	Hexachlorobenzene	U	2.83	ug/L	2.83	9.43
87-68-3	Hexachlorobutadiene	U	2.83	ug/L	2.83	9.43
77-47-4	Hexachlorocyclopentadiene	U	2.83	ug/L	2.83	9.43
67-72-1	Hexachloroethane	U	2.83	ug/L	2.83	9.43
70-30-4	Hexachlorophene	U	158	ug/L	158	472
1888-71-7	Hexachloropropene	U	2.83	ug/L	2.83	9.43
193-39-5	Indeno(1,2,3-cd)pyrene	J	0.377	ug/L	0.283	0.943
465-73-6	Isodrin	U	2.83	ug/L	2.83	9.43

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SDG Number: GEL392828	Date Collected: 03/08/2016 12:15	Matrix: WATER
Lab Sample ID: 392828005	Date Received: 03/09/2016 10:20	
Client ID: B34B57	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1550975	Method: SW846 3510C/8270D	SOP Ref: GL-OA-E-009
Run Date: 03/11/2016 14:54	Inst: MSD4.I	Dilution: 1
Prep Date: 03/10/2016 16:50	Analyst: JMB3	Inj. Vol: 1 uL
Data File: s031116.B\s4c1114.D	Aliquot: 1060 mL	Final Volume: 1 mL
	Column: DB-5ms	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
78-59-1	Isophorone	U	3.30	ug/L	3.30	9.43
120-58-1	Isosafrole	U	2.83	ug/L	2.83	9.43
143-50-0	Kepone	U	2.83	ug/L	2.83	9.43
91-80-5	Methapyrilene	U	2.83	ug/L	2.83	9.43
66-27-3	Methyl methanesulfonate	U	2.83	ug/L	2.83	9.43
298-00-0	Methyl parathion	U	2.83	ug/L	2.83	9.43
62-75-9	N-Methyl-N-nitrosomethylamine	U	2.83	ug/L	2.83	9.43
924-16-3	N-Nitrosodi-n-butylamine	U	2.83	ug/L	2.83	9.43
55-18-5	N-Nitrosodiethylamine	U	2.83	ug/L	2.83	9.43
621-64-7	N-Nitrosodipropylamine	U	2.83	ug/L	2.83	9.43
10595-95-6	N-Nitrosomethylethylamine	U	2.83	ug/L	2.83	9.43
59-89-2	N-Nitrosomorpholine	U	2.83	ug/L	2.83	9.43
100-75-4	N-Nitrosopiperidine	U	2.83	ug/L	2.83	9.43
930-55-2	N-Nitrosopyrrolidine	U	2.83	ug/L	2.83	9.43
91-20-3	Naphthalene	U	0.283	ug/L	0.283	0.943
98-95-3	Nitrobenzene	U	2.83	ug/L	2.83	9.43
56-38-2	Parathion	U	2.83	ug/L	2.83	9.43
608-93-5	Pentachlorobenzene	U	2.83	ug/L	2.83	9.43
76-01-7	Pentachloroethane	U	2.83	ug/L	2.83	9.43
82-68-8	Pentachloronitrobenzene	U	3.21	ug/L	3.21	9.43
87-86-5	Pentachlorophenol	U	2.83	ug/L	2.83	9.43
62-44-2	Phenacetin	U	2.83	ug/L	2.83	9.43
85-01-8	Phenanthrene	U	0.283	ug/L	0.283	0.943
108-95-2	Phenol	U	2.83	ug/L	2.83	9.43
298-02-2	Phorate	U	2.83	ug/L	2.83	9.43
23950-58-5	Pronamide	U	2.83	ug/L	2.83	9.43
129-00-0	Pyrene	U	0.283	ug/L	0.283	0.943
110-86-1	Pyridine	U	2.83	ug/L	2.83	9.43
94-59-7	Safrole	U	2.83	ug/L	2.83	9.43
3689-24-5	Sulfotepp	U	2.83	ug/L	2.83	9.43
297-97-2	Thionazin	U	2.83	ug/L	2.83	9.43
126-73-8	Tributylphosphate	U	2.83	ug/L	2.83	9.43
126-68-1	Triethylphosphorothioate	U	2.83	ug/L	2.83	9.43
122-09-8	a,a-Dimethylphenethylamine	U	5.09	ug/L	5.09	9.43
108-60-1	bis(2-Chloro-1-methylethyl)ether	U	2.83	ug/L	2.83	9.43
111-91-1	bis(2-Chloroethoxy)methane	U	2.83	ug/L	2.83	9.43
111-44-4	bis(2-Chloroethyl) ether	U	2.83	ug/L	2.83	9.43
117-81-7	bis(2-Ethylhexyl)phthalate	U	2.83	ug/L	2.83	9.43

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SDG Number:	GEL392828	Date Collected:	03/08/2016 12:15	Matrix:	WATER
Lab Sample ID:	392828005	Date Received:	03/09/2016 10:20		
Client ID:	B34B57	Client:	CPRC001	Project:	CPRC0W16003
Batch ID:	1550975	Method:	SW846 3510C/8270D	SOP Ref:	GL-OA-E-009
Run Date:	03/11/2016 14:54	Inst:	MSD4.I	Dilution:	1
Prep Date:	03/10/2016 16:50	Analyst:	JMB3	Inj. Vol:	1 uL
Data File:	s031116.B\s4c1114.D	Aliquot:	1060 mL	Final Volume:	1 mL
		Column:	DB-5ms		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
DPA+NNDPA 122-39-4	diphenylamine+N-nitrosodiphenylan <i>Diphenylamine</i>	U	2.83	ug/L	2.83	9.43
65794-96-9	m,p-Cresols	U	3.49	ug/L	3.49	9.43
99-65-0	m-Dinitrobenzene	U	2.83	ug/L	2.83	9.43
99-09-2	m-Nitroaniline	U	2.83	ug/L	2.83	9.43
95-48-7	o-Cresol	U	2.83	ug/L	2.83	9.43
88-74-4	o-Nitroaniline	U	2.83	ug/L	2.83	9.43
95-53-4	o-Toluidine	U	2.83	ug/L	2.83	9.43
60-11-7	p-(Dimethylamino)azobenzene	U	2.83	ug/L	2.83	9.43
100-01-6	p-Nitroaniline	U	2.83	ug/L	2.83	9.43
106-50-3	p-Phenylenediamine	U	94.3	ug/L	94.3	472

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SDG Number:	GEL392828	Date Collected:	03/08/2016 08:32	Matrix:	WATER
Lab Sample ID:	392828007	Date Received:	03/09/2016 10:20	Client:	CPRC001
Client ID:	B34B79	Method:	SW846 3510C/8270D	Project:	CPRC0W16003
Batch ID:	1550975	Inst:	MSD4.I	SOP Ref:	GL-OA-E-009
Run Date:	03/11/2016 15:22	Analyst:	JMB3	Dilution:	1
Prep Date:	03/10/2016 16:50	Aliquot:	1070 mL	Inj. Vol:	1 uL
Data File:	s031116.B\s4c1115.D	Column:	DB-5ms	Final Volume:	1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-94-3	1,2,4,5-Tetrachlorobenzene	U	2.80	ug/L	2.80	9.35
120-82-1	1,2,4-Trichlorobenzene	U	2.80	ug/L	2.80	9.35
95-50-1	1,2-Dichlorobenzene	U	2.80	ug/L	2.80	9.35
99-35-4	1,3,5-Trinitrobenzene	U	2.80	ug/L	2.80	9.35
541-73-1	1,3-Dichlorobenzene	U	2.80	ug/L	2.80	9.35
106-46-7	1,4-Dichlorobenzene	U	2.80	ug/L	2.80	9.35
123-91-1	1,4-Dioxane	U	2.80	ug/L	2.80	9.35
130-15-4	1,4-Naphthoquinone	U	2.80	ug/L	2.80	9.35
134-32-7	1-Naphthylamine	U	2.80	ug/L	2.80	9.35
58-90-2	2,3,4,6-Tetrachlorophenol	U	2.80	ug/L	2.80	9.35
95-95-4	2,4,5-Trichlorophenol	U	2.80	ug/L	2.80	9.35
88-06-2	2,4,6-Trichlorophenol	U	2.80	ug/L	2.80	9.35
120-83-2	2,4-Dichlorophenol	U	2.80	ug/L	2.80	9.35
105-67-9	2,4-Dimethylphenol	U	2.80	ug/L	2.80	9.35
51-28-5	2,4-Dinitrophenol	U	4.67	ug/L	4.67	18.7
121-14-2	2,4-Dinitrotoluene	U	2.80	ug/L	2.80	9.35
87-65-0	2,6-Dichlorophenol	U	2.80	ug/L	2.80	9.35
606-20-2	2,6-Dinitrotoluene	U	2.80	ug/L	2.80	9.35
53-96-3	2-Acetylaminofluorene	U	2.80	ug/L	2.80	9.35
91-58-7	2-Chloronaphthalene	U	0.383	ug/L	0.383	0.935
95-57-8	2-Chlorophenol	U	2.80	ug/L	2.80	9.35
534-52-1	2-Methyl-4,6-dinitrophenol	U	2.80	ug/L	2.80	9.35
91-57-6	2-Methylnaphthalene	U	0.280	ug/L	0.280	0.935
91-59-8	2-Naphthylamine	U	2.80	ug/L	2.80	9.35
88-75-5	2-Nitrophenol	U	2.80	ug/L	2.80	9.35
109-06-8	2-Picoline	U	2.80	ug/L	2.80	9.35
91-94-1	3,3'-Dichlorobenzidine	U	2.80	ug/L	2.80	9.35
119-93-7	3,3'-Dimethylbenzidine	U	3.08	ug/L	3.08	9.35
56-49-5	3-Methylcholanthrene	U	2.80	ug/L	2.80	9.35
92-67-1	4-Aminobiphenyl	U	2.80	ug/L	2.80	9.35
101-55-3	4-Bromophenylphenylether	U	2.80	ug/L	2.80	9.35
59-50-7	4-Chloro-3-methylphenol	U	2.80	ug/L	2.80	9.35
106-47-8	4-Chloroaniline	U	3.08	ug/L	3.08	9.35
7005-72-3	4-Chlorophenylphenylether	U	2.80	ug/L	2.80	9.35
100-02-7	4-Nitrophenol	U	2.80	ug/L	2.80	9.35
56-57-5	4-Nitroquinoline-1-oxide	U	3.55	ug/L	3.55	9.35
99-55-8	5-Nitro-o-toluidine	U	2.80	ug/L	2.80	9.35
57-97-6	7,12-Dimethylbenz(a)anthracene	U	2.80	ug/L	2.80	9.35
	<i>7,12Dimethylbenz(a)anthracene</i>					

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SDG Number: GEL392828	Date Collected: 03/08/2016 08:32	Matrix: WATER
Lab Sample ID: 392828007	Date Received: 03/09/2016 10:20	
Client ID: B34B79	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1550975	Method: SW846 3510C/8270D	SOP Ref: GL-OA-E-009
Run Date: 03/11/2016 15:22	Inst: MSD4.I	Dilution: 1
Prep Date: 03/10/2016 16:50	Analyst: JMB3	Inj. Vol: 1 uL
Data File: s031116.B\s4c1115.D	Aliquot: 1070 mL	Final Volume: 1 mL
	Column: DB-5ms	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
83-32-9	Acenaphthene	U	0.280	ug/L	0.280	0.935
208-96-8	Acenaphthylene	U	0.280	ug/L	0.280	0.935
98-86-2	Acetophenone	U	2.80	ug/L	2.80	9.35
62-53-3	Aniline	U	3.93	ug/L	3.93	9.35
120-12-7	Anthracene	U	0.280	ug/L	0.280	0.935
140-57-8	Aramite	U	3.46	ug/L	3.46	9.35
56-55-3	Benzo(a)anthracene	U	0.280	ug/L	0.280	0.935
50-32-8	Benzo(a)pyrene	U	0.280	ug/L	0.280	0.935
205-99-2	Benzo(b)fluoranthene	U	0.280	ug/L	0.280	0.935
191-24-2	Benzo(ghi)perylene	U	0.280	ug/L	0.280	0.935
207-08-9	Benzo(k)fluoranthene	U	0.280	ug/L	0.280	0.935
100-51-6	Benzyl alcohol	U	2.80	ug/L	2.80	9.35
85-68-7	Butylbenzylphthalate	U	2.80	ug/L	2.80	9.35
86-74-8	Carbazole	U	0.280	ug/L	0.280	0.935
510-15-6	Chlorobenzilate	U	2.80	ug/L	2.80	9.35
218-01-9	Chrysene	U	0.280	ug/L	0.280	0.935
84-74-2	Di-n-butylphthalate	U	2.80	ug/L	2.80	9.35
117-84-0	Di-n-octylphthalate	U	2.80	ug/L	2.80	9.35
2303-16-4	Diallate	U	2.80	ug/L	2.80	9.35
53-70-3	Dibenzo(a,h)anthracene	J	0.290	ug/L	0.280	0.935
132-64-9	Dibenzofuran	U	2.80	ug/L	2.80	9.35
84-66-2	Diethylphthalate	U	2.80	ug/L	2.80	9.35
60-51-5	Dimethoate	U	2.80	ug/L	2.80	9.35
131-11-3	Dimethylphthalate	U	2.80	ug/L	2.80	9.35
88-85-7	Dinoseb	U	2.80	ug/L	2.80	9.35
298-04-4	Disulfoton	U	2.80	ug/L	2.80	9.35
62-50-0	Ethyl Methanesulfonate	U	2.80	ug/L	2.80	9.35
52-85-7	Famphur	U	4.67	ug/L	4.67	9.35
206-44-0	Fluoranthene	U	0.280	ug/L	0.280	0.935
86-73-7	Fluorene	U	0.280	ug/L	0.280	0.935
118-74-1	Hexachlorobenzene	U	2.80	ug/L	2.80	9.35
87-68-3	Hexachlorobutadiene	U	2.80	ug/L	2.80	9.35
77-47-4	Hexachlorocyclopentadiene	U	2.80	ug/L	2.80	9.35
67-72-1	Hexachloroethane	U	2.80	ug/L	2.80	9.35
70-30-4	Hexachlorophene	U	156	ug/L	156	467
1888-71-7	Hexachloropropene	U	2.80	ug/L	2.80	9.35
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.280	ug/L	0.280	0.935
465-73-6	Isodrin	U	2.80	ug/L	2.80	9.35

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SDG Number: GEL392828	Date Collected: 03/08/2016 08:32	Matrix: WATER
Lab Sample ID: 392828007	Date Received: 03/09/2016 10:20	
Client ID: B34B79	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1550975	Method: SW846 3510C/8270D	SOP Ref: GL-OA-E-009
Run Date: 03/11/2016 15:22	Inst: MSD4.I	Dilution: 1
Prep Date: 03/10/2016 16:50	Analyst: JMB3	Inj. Vol: 1 uL
Data File: s031116.B\s4c1115.D	Aliquot: 1070 mL	Final Volume: 1 mL
	Column: DB-5ms	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
78-59-1	Isophorone	U	3.27	ug/L	3.27	9.35
120-58-1	Isosafrole	U	2.80	ug/L	2.80	9.35
143-50-0	Kepone	U	2.80	ug/L	2.80	9.35
91-80-5	Methapyrilene	U	2.80	ug/L	2.80	9.35
66-27-3	Methyl methanesulfonate	U	2.80	ug/L	2.80	9.35
298-00-0	Methyl parathion	U	2.80	ug/L	2.80	9.35
62-75-9	N-Methyl-N-nitrosomethylamine	U	2.80	ug/L	2.80	9.35
924-16-3	N-Nitrosodi-n-butylamine	U	2.80	ug/L	2.80	9.35
55-18-5	N-Nitrosodiethylamine	U	2.80	ug/L	2.80	9.35
621-64-7	N-Nitrosodipropylamine	U	2.80	ug/L	2.80	9.35
10595-95-6	N-Nitrosomethylethylamine	U	2.80	ug/L	2.80	9.35
59-89-2	N-Nitrosomorpholine	U	2.80	ug/L	2.80	9.35
100-75-4	N-Nitrosopiperidine	U	2.80	ug/L	2.80	9.35
930-55-2	N-Nitrosopyrrolidine	U	2.80	ug/L	2.80	9.35
91-20-3	Naphthalene	U	0.280	ug/L	0.280	0.935
98-95-3	Nitrobenzene	U	2.80	ug/L	2.80	9.35
56-38-2	Parathion	U	2.80	ug/L	2.80	9.35
608-93-5	Pentachlorobenzene	U	2.80	ug/L	2.80	9.35
76-01-7	Pentachloroethane	U	2.80	ug/L	2.80	9.35
82-68-8	Pentachloronitrobenzene	U	3.18	ug/L	3.18	9.35
87-86-5	Pentachlorophenol	U	2.80	ug/L	2.80	9.35
62-44-2	Phenacetin	U	2.80	ug/L	2.80	9.35
85-01-8	Phenanthrene	U	0.280	ug/L	0.280	0.935
108-95-2	Phenol	U	2.80	ug/L	2.80	9.35
298-02-2	Phorate	U	2.80	ug/L	2.80	9.35
23950-58-5	Pronamide	U	2.80	ug/L	2.80	9.35
129-00-0	Pyrene	U	0.280	ug/L	0.280	0.935
110-86-1	Pyridine	U	2.80	ug/L	2.80	9.35
94-59-7	Safrole	U	2.80	ug/L	2.80	9.35
3689-24-5	Sulfotepp	U	2.80	ug/L	2.80	9.35
297-97-2	Thionazin	U	2.80	ug/L	2.80	9.35
126-73-8	Tributylphosphate	U	2.80	ug/L	2.80	9.35
126-68-1	Triethylphosphorothioate	U	2.80	ug/L	2.80	9.35
122-09-8	a,a-Dimethylphenethylamine	U	5.05	ug/L	5.05	9.35
108-60-1	bis(2-Chloro-1-methylethyl)ether	U	2.80	ug/L	2.80	9.35
111-91-1	bis(2-Chloroethoxy)methane	U	2.80	ug/L	2.80	9.35
111-44-4	bis(2-Chloroethyl) ether	U	2.80	ug/L	2.80	9.35
117-81-7	bis(2-Ethylhexyl)phthalate	U	2.80	ug/L	2.80	9.35

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SDG Number: GEL392828	Date Collected: 03/08/2016 08:32	Matrix: WATER
Lab Sample ID: 392828007	Date Received: 03/09/2016 10:20	
Client ID: B34B79	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1550975	Method: SW846 3510C/8270D	SOP Ref: GL-OA-E-009
Run Date: 03/11/2016 15:22	Inst: MSD4.I	Dilution: 1
Prep Date: 03/10/2016 16:50	Analyst: JMB3	Inj. Vol: 1 uL
Data File: s031116.B\4c1115.D	Aliquot: 1070 mL	Final Volume: 1 mL
	Column: DB-5ms	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
DPA+NNDPA 122-39-4	diphenylamine+N-nitrosodiphenylan <i>Diphenylamine</i>	U	2.80	ug/L	2.80	9.35
65794-96-9	m,p-Cresols	U	3.46	ug/L	3.46	9.35
99-65-0	m-Dinitrobenzene	U	2.80	ug/L	2.80	9.35
99-09-2	m-Nitroaniline	U	2.80	ug/L	2.80	9.35
95-48-7	o-Cresol	U	2.80	ug/L	2.80	9.35
88-74-4	o-Nitroaniline	U	2.80	ug/L	2.80	9.35
95-53-4	o-Toluidine	U	2.80	ug/L	2.80	9.35
60-11-7	p-(Dimethylamino)azobenzene	U	2.80	ug/L	2.80	9.35
100-01-6	p-Nitroaniline	U	2.80	ug/L	2.80	9.35
106-50-3	p-Phenylenediamine	U	93.5	ug/L	93.5	467

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SDG Number:	GEL392828	Date Collected:	03/08/2016 08:32	Matrix:	WATER
Lab Sample ID:	392828010	Date Received:	03/09/2016 10:20	Client:	CPRC001
Client ID:	B34B80	Method:	SW846 3510C/8270D	Project:	CPRC0W16003
Batch ID:	1550975	Inst:	MSD4.I	SOP Ref:	GL-OA-E-009
Run Date:	03/11/2016 15:51	Analyst:	JMB3	Dilution:	1
Prep Date:	03/10/2016 16:50	Aliquot:	1070 mL	Inj. Vol:	1 uL
Data File:	s031116.B\s4c1116.D	Column:	DB-5ms	Final Volume:	1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-94-3	1,2,4,5-Tetrachlorobenzene	U	2.80	ug/L	2.80	9.35
120-82-1	1,2,4-Trichlorobenzene	U	2.80	ug/L	2.80	9.35
95-50-1	1,2-Dichlorobenzene	U	2.80	ug/L	2.80	9.35
99-35-4	1,3,5-Trinitrobenzene	U	2.80	ug/L	2.80	9.35
541-73-1	1,3-Dichlorobenzene	U	2.80	ug/L	2.80	9.35
106-46-7	1,4-Dichlorobenzene	U	2.80	ug/L	2.80	9.35
123-91-1	1,4-Dioxane	U	2.80	ug/L	2.80	9.35
130-15-4	1,4-Naphthoquinone	U	2.80	ug/L	2.80	9.35
134-32-7	1-Naphthylamine	U	2.80	ug/L	2.80	9.35
58-90-2	2,3,4,6-Tetrachlorophenol	U	2.80	ug/L	2.80	9.35
95-95-4	2,4,5-Trichlorophenol	U	2.80	ug/L	2.80	9.35
88-06-2	2,4,6-Trichlorophenol	U	2.80	ug/L	2.80	9.35
120-83-2	2,4-Dichlorophenol	U	2.80	ug/L	2.80	9.35
105-67-9	2,4-Dimethylphenol	U	2.80	ug/L	2.80	9.35
51-28-5	2,4-Dinitrophenol	U	4.67	ug/L	4.67	18.7
121-14-2	2,4-Dinitrotoluene	U	2.80	ug/L	2.80	9.35
87-65-0	2,6-Dichlorophenol	U	2.80	ug/L	2.80	9.35
606-20-2	2,6-Dinitrotoluene	U	2.80	ug/L	2.80	9.35
53-96-3	2-Acetylaminofluorene	U	2.80	ug/L	2.80	9.35
91-58-7	2-Chloronaphthalene	U	0.383	ug/L	0.383	0.935
95-57-8	2-Chlorophenol	U	2.80	ug/L	2.80	9.35
534-52-1	2-Methyl-4,6-dinitrophenol	U	2.80	ug/L	2.80	9.35
91-57-6	2-Methylnaphthalene	U	0.280	ug/L	0.280	0.935
91-59-8	2-Naphthylamine	U	2.80	ug/L	2.80	9.35
88-75-5	2-Nitrophenol	U	2.80	ug/L	2.80	9.35
109-06-8	2-Picoline	U	2.80	ug/L	2.80	9.35
91-94-1	3,3'-Dichlorobenzidine	U	2.80	ug/L	2.80	9.35
119-93-7	3,3'-Dimethylbenzidine	U	3.08	ug/L	3.08	9.35
56-49-5	3-Methylcholanthrene	U	2.80	ug/L	2.80	9.35
92-67-1	4-Aminobiphenyl	U	2.80	ug/L	2.80	9.35
101-55-3	4-Bromophenylphenylether	U	2.80	ug/L	2.80	9.35
59-50-7	4-Chloro-3-methylphenol	U	2.80	ug/L	2.80	9.35
106-47-8	4-Chloroaniline	U	3.08	ug/L	3.08	9.35
7005-72-3	4-Chlorophenylphenylether	U	2.80	ug/L	2.80	9.35
100-02-7	4-Nitrophenol	U	2.80	ug/L	2.80	9.35
56-57-5	4-Nitroquinoline-1-oxide	U	3.55	ug/L	3.55	9.35
99-55-8	5-Nitro-o-toluidine	U	2.80	ug/L	2.80	9.35
57-97-6	7,12-Dimethylbenz(a)anthracene	U	2.80	ug/L	2.80	9.35
	<i>7,12Dimethylbenz(a)anthracene</i>					

**Semi-Volatile
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Sample Summary**

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SDG Number: GEL392828	Date Collected: 03/08/2016 08:32	Matrix: WATER
Lab Sample ID: 392828010	Date Received: 03/09/2016 10:20	
Client ID: B34B80	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1550975	Method: SW846 3510C/8270D	SOP Ref: GL-OA-E-009
Run Date: 03/11/2016 15:51	Inst: MSD4.I	Dilution: 1
Prep Date: 03/10/2016 16:50	Analyst: JMB3	Inj. Vol: 1 uL
Data File: s031116.B\s4c1116.D	Aliquot: 1070 mL	Final Volume: 1 mL
	Column: DB-5ms	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
83-32-9	Acenaphthene	U	0.280	ug/L	0.280	0.935
208-96-8	Acenaphthylene	U	0.280	ug/L	0.280	0.935
98-86-2	Acetophenone	U	2.80	ug/L	2.80	9.35
62-53-3	Aniline	U	3.93	ug/L	3.93	9.35
120-12-7	Anthracene	U	0.280	ug/L	0.280	0.935
140-57-8	Aramite	U	3.46	ug/L	3.46	9.35
56-55-3	Benzo(a)anthracene	U	0.280	ug/L	0.280	0.935
50-32-8	Benzo(a)pyrene	U	0.280	ug/L	0.280	0.935
205-99-2	Benzo(b)fluoranthene	U	0.280	ug/L	0.280	0.935
191-24-2	Benzo(ghi)perylene	U	0.280	ug/L	0.280	0.935
207-08-9	Benzo(k)fluoranthene	U	0.280	ug/L	0.280	0.935
100-51-6	Benzyl alcohol	U	2.80	ug/L	2.80	9.35
85-68-7	Butylbenzylphthalate	U	2.80	ug/L	2.80	9.35
86-74-8	Carbazole	U	0.280	ug/L	0.280	0.935
510-15-6	Chlorobenzilate	U	2.80	ug/L	2.80	9.35
218-01-9	Chrysene	U	0.280	ug/L	0.280	0.935
84-74-2	Di-n-butylphthalate	U	2.80	ug/L	2.80	9.35
117-84-0	Di-n-octylphthalate	U	2.80	ug/L	2.80	9.35
2303-16-4	Diallate	U	2.80	ug/L	2.80	9.35
53-70-3	Dibenzo(a,h)anthracene	U	0.280	ug/L	0.280	0.935
132-64-9	Dibenzofuran	U	2.80	ug/L	2.80	9.35
84-66-2	Diethylphthalate	U	2.80	ug/L	2.80	9.35
60-51-5	Dimethoate	U	2.80	ug/L	2.80	9.35
131-11-3	Dimethylphthalate	U	2.80	ug/L	2.80	9.35
88-85-7	Dinoseb	U	2.80	ug/L	2.80	9.35
298-04-4	Disulfoton	U	2.80	ug/L	2.80	9.35
62-50-0	Ethyl Methanesulfonate	U	2.80	ug/L	2.80	9.35
52-85-7	Famphur	U	4.67	ug/L	4.67	9.35
206-44-0	Fluoranthene	U	0.280	ug/L	0.280	0.935
86-73-7	Fluorene	U	0.280	ug/L	0.280	0.935
118-74-1	Hexachlorobenzene	U	2.80	ug/L	2.80	9.35
87-68-3	Hexachlorobutadiene	U	2.80	ug/L	2.80	9.35
77-47-4	Hexachlorocyclopentadiene	U	2.80	ug/L	2.80	9.35
67-72-1	Hexachloroethane	U	2.80	ug/L	2.80	9.35
70-30-4	Hexachlorophene	U	156	ug/L	156	467
1888-71-7	Hexachloropropene	U	2.80	ug/L	2.80	9.35
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.280	ug/L	0.280	0.935
465-73-6	Isodrin	U	2.80	ug/L	2.80	9.35

Semi-Volatile
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Sample Summary

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SDG Number: GEL392828	Date Collected: 03/08/2016 08:32	Matrix: WATER
Lab Sample ID: 392828010	Date Received: 03/09/2016 10:20	
Client ID: B34B80	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1550975	Method: SW846 3510C/8270D	SOP Ref: GL-OA-E-009
Run Date: 03/11/2016 15:51	Inst: MSD4.I	Dilution: 1
Prep Date: 03/10/2016 16:50	Analyst: JMB3	Inj. Vol: 1 uL
Data File: s031116.B\s4c1116.D	Aliquot: 1070 mL	Final Volume: 1 mL
	Column: DB-5ms	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
78-59-1	Isophorone	U	3.27	ug/L	3.27	9.35
120-58-1	Isosafrole	U	2.80	ug/L	2.80	9.35
143-50-0	Kepone	U	2.80	ug/L	2.80	9.35
91-80-5	Methapyrilene	U	2.80	ug/L	2.80	9.35
66-27-3	Methyl methanesulfonate	U	2.80	ug/L	2.80	9.35
298-00-0	Methyl parathion	U	2.80	ug/L	2.80	9.35
62-75-9	N-Methyl-N-nitrosomethylamine	U	2.80	ug/L	2.80	9.35
924-16-3	N-Nitrosodi-n-butylamine	U	2.80	ug/L	2.80	9.35
55-18-5	N-Nitrosodiethylamine	U	2.80	ug/L	2.80	9.35
621-64-7	N-Nitrosodipropylamine	U	2.80	ug/L	2.80	9.35
10595-95-6	N-Nitrosomethylethylamine	U	2.80	ug/L	2.80	9.35
59-89-2	N-Nitrosomorpholine	U	2.80	ug/L	2.80	9.35
100-75-4	N-Nitrosopiperidine	U	2.80	ug/L	2.80	9.35
930-55-2	N-Nitrosopyrrolidine	U	2.80	ug/L	2.80	9.35
91-20-3	Naphthalene	U	0.280	ug/L	0.280	0.935
98-95-3	Nitrobenzene	U	2.80	ug/L	2.80	9.35
56-38-2	Parathion	U	2.80	ug/L	2.80	9.35
608-93-5	Pentachlorobenzene	U	2.80	ug/L	2.80	9.35
76-01-7	Pentachloroethane	U	2.80	ug/L	2.80	9.35
82-68-8	Pentachloronitrobenzene	U	3.18	ug/L	3.18	9.35
87-86-5	Pentachlorophenol	U	2.80	ug/L	2.80	9.35
62-44-2	Phenacetin	U	2.80	ug/L	2.80	9.35
85-01-8	Phenanthrene	U	0.280	ug/L	0.280	0.935
108-95-2	Phenol	U	2.80	ug/L	2.80	9.35
298-02-2	Phorate	U	2.80	ug/L	2.80	9.35
23950-58-5	Pronamide	U	2.80	ug/L	2.80	9.35
129-00-0	Pyrene	U	0.280	ug/L	0.280	0.935
110-86-1	Pyridine	U	2.80	ug/L	2.80	9.35
94-59-7	Safrole	U	2.80	ug/L	2.80	9.35
3689-24-5	Sulfotepp	U	2.80	ug/L	2.80	9.35
297-97-2	Thionazin	U	2.80	ug/L	2.80	9.35
126-73-8	Tributylphosphate	U	2.80	ug/L	2.80	9.35
126-68-1	Triethylphosphorothioate	U	2.80	ug/L	2.80	9.35
122-09-8	a,a-Dimethylphenethylamine	U	5.05	ug/L	5.05	9.35
108-60-1	bis(2-Chloro-1-methylethyl)ether	U	2.80	ug/L	2.80	9.35
111-91-1	bis(2-Chloroethoxy)methane	U	2.80	ug/L	2.80	9.35
111-44-4	bis(2-Chloroethyl) ether	U	2.80	ug/L	2.80	9.35
117-81-7	bis(2-Ethylhexyl)phthalate	U	2.80	ug/L	2.80	9.35

Semi-Volatile
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Sample Summary

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SDG Number:	GEL392828	Date Collected:	03/08/2016 08:32	Matrix:	WATER
Lab Sample ID:	392828010	Date Received:	03/09/2016 10:20	Client:	CPRC001
Client ID:	B34B80	Method:	SW846 3510C/8270D	Project:	CPRC0W16003
Batch ID:	1550975	Inst:	MSD4.I	SOP Ref:	GL-OA-E-009
Run Date:	03/11/2016 15:51	Analyst:	JMB3	Dilution:	1
Prep Date:	03/10/2016 16:50	Aliquot:	1070 mL	Inj. Vol:	1 uL
Data File:	s031116.B\s4c1116.D	Column:	DB-5ms	Final Volume:	1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
DPA+NNDPA 122-39-4	diphenylamine+N-nitrosodiphenylan <i>Diphenylamine</i>	U	2.80	ug/L	2.80	9.35
65794-96-9	m,p-Cresols	U	3.46	ug/L	3.46	9.35
99-65-0	m-Dinitrobenzene	U	2.80	ug/L	2.80	9.35
99-09-2	m-Nitroaniline	U	2.80	ug/L	2.80	9.35
95-48-7	o-Cresol	U	2.80	ug/L	2.80	9.35
88-74-4	o-Nitroaniline	U	2.80	ug/L	2.80	9.35
95-53-4	o-Toluidine	U	2.80	ug/L	2.80	9.35
60-11-7	p-(Dimethylamino)azobenzene	U	2.80	ug/L	2.80	9.35
100-01-6	p-Nitroaniline	U	2.80	ug/L	2.80	9.35
106-50-3	p-Phenylenediamine	U	93.5	ug/L	93.5	467

Quality Control Summary

GEL LABORATORIES LLC

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QC Summary

Report Date: March 16, 2016

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CH2M Hill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Contact: Mr. Scot Fitzgerald

Workorder: 392828

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
QC1203504899	LCS										
1,2,4,5-Tetrachlorobenzene	50.0			38.3	ug/L		77	(70%-130%)	JMB3	03/11/16	11:34
1,2,4-Trichlorobenzene	50.0			36.6	ug/L		73	(70%-130%)			
1,2-Dichlorobenzene	50.0			35.1	ug/L		70	(70%-130%)			
1,3-Dichlorobenzene	50.0			33.5	ug/L		67 *	(70%-130%)			
1,4-Dichlorobenzene	50.0			34.7	ug/L		69 *	(70%-130%)			
1,4-Dioxane	50.0			26.9	ug/L		54 *	(70%-130%)			
2,3,4,6-Tetrachlorophenol	50.0			47.5	ug/L		95	(70%-130%)			
2,4,5-Trichlorophenol	50.0			40.0	ug/L		80	(70%-130%)			
2,4,6-Trichlorophenol	50.0			46.5	ug/L		93	(70%-130%)			
2,4-Dichlorophenol	50.0			38.7	ug/L		77	(70%-130%)			
2,4-Dimethylphenol	50.0			38.3	ug/L		77	(70%-130%)			
2,4-Dinitrophenol	50.0		J	34.6	ug/L		69 *	(70%-130%)			
2,4-Dinitrotoluene	50.0			47.1	ug/L		94	(70%-130%)			
2,6-Dichlorophenol	50.0			45.7	ug/L		91	(70%-130%)			
2,6-Dinitrotoluene	50.0			46.3	ug/L		93	(70%-130%)			
2-Chloronaphthalene	50.0			38.9	ug/L		78	(70%-130%)			
2-Chlorophenol	50.0			36.6	ug/L		73	(70%-130%)			
2-Methyl-4,6-dinitrophenol	50.0		J	39.8	ug/L		80	(70%-130%)			
2-Methylnaphthalene	50.0			39.2	ug/L		78	(70%-130%)			
2-Nitrophenol	50.0			39.2	ug/L		78	(70%-130%)			

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
3,3'-Dichlorobenzidine	50.0			45.4	ug/L		91	(70%-130%)	JMB3	03/11/16	11:34
4-Bromophenylphenylether	50.0			41.5	ug/L		83	(70%-130%)			
4-Chloro-3-methylphenol	50.0			41.5	ug/L		83	(70%-130%)			
4-Chloroaniline	50.0			46.8	ug/L		94	(70%-130%)			
4-Chlorophenylphenylether	50.0			46.9	ug/L		94	(70%-130%)			
4-Nitrophenol	50.0		J	16.1	ug/L		32*	(70%-130%)			
Acenaphthene	50.0			43.4	ug/L		87	(70%-130%)			
Acenaphthylene	50.0			43.4	ug/L		87	(70%-130%)			
Acetophenone	50.0			41.5	ug/L		83	(70%-130%)			
Aniline	50.0			35.1	ug/L		70	(70%-130%)			
Anthracene	50.0			44.0	ug/L		88	(70%-130%)			
Benzo(a)anthracene	50.0			44.4	ug/L		89	(70%-130%)			
Benzo(a)pyrene	50.0			45.7	ug/L		91	(70%-130%)			
Benzo(b)fluoranthene	50.0			45.1	ug/L		90	(70%-130%)			
Benzo(ghi)perylene	50.0			50.9	ug/L		102	(70%-130%)			
Benzo(k)fluoranthene	50.0			46.2	ug/L		92	(70%-130%)			
Benzyl alcohol	50.0			33.0	ug/L		66*	(70%-130%)			
Butylbenzylphthalate	50.0			42.1	ug/L		84	(70%-130%)			
Carbazole	50.0			45.7	ug/L		91	(70%-130%)			
Chrysene	50.0			47.8	ug/L		96	(70%-130%)			
Di-n-butylphthalate	50.0			47.9	ug/L		96	(70%-130%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
Di-n-octylphthalate	50.0			45.7	ug/L		91	(70%-130%)			
Dibenzo(a,h)anthracene	50.0			49.2	ug/L		98	(70%-130%)	JMB3	03/11/16	11:34
Dibenzofuran	50.0			42.5	ug/L		85	(70%-130%)			
Diethylphthalate	50.0			48.3	ug/L		97	(70%-130%)			
Dimethylphthalate	50.0			46.2	ug/L		92	(70%-130%)			
Fluoranthene	50.0			48.2	ug/L		96	(70%-130%)			
Fluorene	50.0			45.6	ug/L		91	(70%-130%)			
Hexachlorobenzene	50.0			43.4	ug/L		87	(70%-130%)			
Hexachlorobutadiene	50.0			35.9	ug/L		72	(70%-130%)			
Hexachlorocyclopentadiene	50.0			25.3	ug/L		51 *	(70%-130%)			
Hexachloroethane	50.0			33.8	ug/L		68 *	(70%-130%)			
Indeno(1,2,3-cd)pyrene	50.0			49.2	ug/L		98	(70%-130%)			
Isophorone	50.0			43.6	ug/L		87	(70%-130%)			
N-Methyl-N-nitrosomethylamine	50.0			24.6	ug/L		49 *	(70%-130%)			
N-Nitrosodipropylamine	50.0			42.5	ug/L		85	(70%-130%)			
N-Nitrosopyrrolidine	50.0			39.1	ug/L		78	(70%-130%)			
Naphthalene	50.0			38.2	ug/L		76	(70%-130%)			
Nitrobenzene	50.0			39.8	ug/L		80	(70%-130%)			
Pentachlorophenol	50.0		J	42.8	ug/L		86	(70%-130%)			
Phenanthrene	50.0			43.4	ug/L		87	(70%-130%)			
Phenol	50.0			15.9	ug/L		32 *	(70%-130%)			
Pyrene	50.0			37.5	ug/L		75	(70%-130%)			

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
Pyridine	50.0			21.2	ug/L		42 *	(70%-130%)			
Tributylphosphate	50.0			49.6	ug/L		99	(70%-130%)	JMB3	03/11/16	11:34
bis(2-Chloro-1-methylethyl)ether	50.0			42.6	ug/L		85	(70%-130%)			
bis(2-Chloroethoxy)methane	50.0			42.2	ug/L		84	(70%-130%)			
bis(2-Chloroethyl) ether	50.0			39.4	ug/L		79	(70%-130%)			
bis(2-Ethylhexyl)phthalate	50.0			43.5	ug/L		87	(70%-130%)			
diphenylamine+N-nitrosodiphenylamine	50.0			39.8	ug/L		80	(70%-130%)			
m,p-Cresols	50.0			32.0	ug/L		64 *	(70%-130%)			
m-Nitroaniline	50.0			52.0	ug/L		104	(70%-130%)			
o-Cresol	50.0			34.0	ug/L		68 *	(70%-130%)			
o-Nitroaniline	50.0			41.1	ug/L		82	(70%-130%)			
p-Nitroaniline	50.0			49.0	ug/L		98	(70%-130%)			
**2,4,6-Tribromophenol	100			91.7	ug/L		92	(70%-130%)			
**2-Fluorobiphenyl	50.0			40.7	ug/L		81	(70%-130%)			
**2-Fluorophenol	100			45.7	ug/L		46 *	(70%-130%)			
**Nitrobenzene-d5	50.0			38.7	ug/L		77	(70%-130%)			
**Phenol-d5	100			29.8	ug/L		30 *	(70%-130%)			
**p-Terphenyl-d14	50.0			38.8	ug/L		78	(70%-130%)			
QC1203504898 MB											
1,2,4,5-Tetrachlorobenzene			U	3.00	ug/L					03/11/16	11:06
1,2,4-Trichlorobenzene			U	3.00	ug/L						
1,2-Dichlorobenzene			U	3.00	ug/L						
1,3,5-Trinitrobenzene			U	3.00	ug/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
1,3-Dichlorobenzene			U	3.00	ug/L				JMB3	03/11/16	11:06
1,4-Dichlorobenzene			U	3.00	ug/L						
1,4-Dioxane			U	3.00	ug/L						
1,4-Naphthoquinone			U	3.00	ug/L						
1-Naphthylamine			U	3.00	ug/L						
2,3,4,6-Tetrachlorophenol			U	3.00	ug/L						
2,4,5-Trichlorophenol			U	3.00	ug/L						
2,4,6-Trichlorophenol			U	3.00	ug/L						
2,4-Dichlorophenol			U	3.00	ug/L						
2,4-Dimethylphenol			U	3.00	ug/L						
2,4-Dinitrophenol			U	5.00	ug/L						
2,4-Dinitrotoluene			U	3.00	ug/L						
2,6-Dichlorophenol			U	3.00	ug/L						
2,6-Dinitrotoluene			U	3.00	ug/L						
2-Acetylaminofluorene			U	3.00	ug/L						
2-Chloronaphthalene			U	0.410	ug/L						
2-Chlorophenol			U	3.00	ug/L						
2-Methyl-4,6-dinitrophenol			U	3.00	ug/L						
2-Methylnaphthalene			U	0.300	ug/L						
2-Naphthylamine			U	3.00	ug/L						
2-Nitrophenol			U	3.00	ug/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
2-Picoline			U	3.00	ug/L						
3,3'-Dichlorobenzidine			U	3.00	ug/L				JMB3	03/11/16	11:06
3,3'-Dimethylbenzidine			U	3.30	ug/L						
3-Methylcholanthrene			U	3.00	ug/L						
4-Aminobiphenyl			U	3.00	ug/L						
4-Bromophenylphenylether			U	3.00	ug/L						
4-Chloro-3-methylphenol			U	3.00	ug/L						
4-Chloroaniline			U	3.30	ug/L						
4-Chlorophenylphenylether			U	3.00	ug/L						
4-Nitrophenol			U	3.00	ug/L						
4-Nitroquinoline-1-oxide			U	3.80	ug/L						
5-Nitro-o-toluidine			U	3.00	ug/L						
7,12-Dimethylbenz(a)anthracene			U	3.00	ug/L						
Acenaphthene			U	0.300	ug/L						
Acenaphthylene			U	0.300	ug/L						
Acetophenone			U	3.00	ug/L						
Aniline			U	4.20	ug/L						
Anthracene			U	0.300	ug/L						
Aramite			U	3.70	ug/L						
Benzo(a)anthracene			U	0.300	ug/L						
Benzo(a)pyrene			U	0.300	ug/L						
Benzo(b)fluoranthene			U	0.300	ug/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
Benzo(ghi)perylene			U	0.300	ug/L						
Benzo(k)fluoranthene			U	0.300	ug/L				JMB3	03/11/16	11:06
Benzyl alcohol			U	3.00	ug/L						
Butylbenzylphthalate			U	3.00	ug/L						
Carbazole			U	0.300	ug/L						
Chlorobenzilate			U	3.00	ug/L						
Chrysene			U	0.300	ug/L						
Di-n-butylphthalate			U	3.00	ug/L						
Di-n-octylphthalate			U	3.00	ug/L						
Diallate			U	3.00	ug/L						
Dibenzo(a,h)anthracene			U	0.300	ug/L						
Dibenzofuran			U	3.00	ug/L						
Diethylphthalate			U	3.00	ug/L						
Dimethoate			U	3.00	ug/L						
Dimethylphthalate			U	3.00	ug/L						
Dinoseb			U	3.00	ug/L						
Disulfoton			U	3.00	ug/L						
Ethyl Methanesulfonate			U	3.00	ug/L						
Famphur			U	5.00	ug/L						
Fluoranthene			U	0.300	ug/L						
Fluorene			U	0.300	ug/L						
Hexachlorobenzene			U	3.00	ug/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
Hexachlorobutadiene			U	3.00	ug/L						
Hexachlorocyclopentadiene			U	3.00	ug/L				JMB3	03/11/16	11:06
Hexachloroethane			U	3.00	ug/L						
Hexachlorophene			U	167	ug/L						
Hexachloropropene			U	3.00	ug/L						
Indeno(1,2,3-cd)pyrene			U	0.300	ug/L						
Isodrin			U	3.00	ug/L						
Isophorone			U	3.50	ug/L						
Isosafrole			U	3.00	ug/L						
Kepone			U	3.00	ug/L						
Methapyrilene			U	3.00	ug/L						
Methyl methanesulfonate			U	3.00	ug/L						
Methyl parathion			U	3.00	ug/L						
N-Methyl-N-nitrosomethylamine			U	3.00	ug/L						
N-Nitrosodi-n-butylamine			U	3.00	ug/L						
N-Nitrosodiethylamine			U	3.00	ug/L						
N-Nitrosodipropylamine			U	3.00	ug/L						
N-Nitrosomethylethylamine			U	3.00	ug/L						
N-Nitrosomorpholine			U	3.00	ug/L						
N-Nitrosopiperidine			U	3.00	ug/L						
N-Nitrosopyrrolidine			U	3.00	ug/L						
Naphthalene			U	0.300	ug/L						

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
Nitrobenzene			U	3.00	ug/L						
Parathion			U	3.00	ug/L				JMB3	03/11/16	11:06
Pentachlorobenzene			U	3.00	ug/L						
Pentachloroethane			U	3.00	ug/L						
Pentachloronitrobenzene			U	3.40	ug/L						
Pentachlorophenol			U	3.00	ug/L						
Phenacetin			U	3.00	ug/L						
Phenanthrene			U	0.300	ug/L						
Phenol			U	3.00	ug/L						
Phorate			U	3.00	ug/L						
Pronamide			U	3.00	ug/L						
Pyrene			U	0.300	ug/L						
Pyridine			U	3.00	ug/L						
Safrole			U	3.00	ug/L						
Sulfotepp			U	3.00	ug/L						
Thionazin			U	3.00	ug/L						
Tributylphosphate			U	3.00	ug/L						
Triethylphosphorothioate			U	3.00	ug/L						
a,a-Dimethylphenethylamine			U	5.40	ug/L						
bis(2-Chloro-1-methylethyl)ether			U	3.00	ug/L						
bis(2-Chloroethoxy)methane			U	3.00	ug/L						
bis(2-Chloroethyl) ether			U	3.00	ug/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
bis(2-Ethylhexyl)phthalate			U	3.00	ug/L						
diphenylamine+N-nitrosodiphenylamine			U	3.00	ug/L				JMB3	03/11/16	11:06
m,p-Cresols			U	3.70	ug/L						
m-Dinitrobenzene			U	3.00	ug/L						
m-Nitroaniline			U	3.00	ug/L						
o-Cresol			U	3.00	ug/L						
o-Nitroaniline			U	3.00	ug/L						
o-Toluidine			U	3.00	ug/L						
p-(Dimethylamino)azobenzene			U	3.00	ug/L						
p-Nitroaniline			U	3.00	ug/L						
p-Phenylenediamine			U	100	ug/L						
**2,4,6-Tribromophenol	100			87.8	ug/L		88	(70%-130%)			
**2-Fluorobiphenyl	50.0			41.5	ug/L		83	(70%-130%)			
**2-Fluorophenol	100			46.5	ug/L		46*	(70%-130%)			
**Nitrobenzene-d5	50.0			39.5	ug/L		79	(70%-130%)			
**Phenol-d5	100			29.2	ug/L		29*	(70%-130%)			
**p-Terphenyl-d14	50.0			40.9	ug/L		82	(70%-130%)			
QC1203504904 392828003 MS											
1,2,4,5-Tetrachlorobenzene	100	U	2.65	64.9	ug/L		65	(26%-100%)		03/11/16	13:29
1,2,4-Trichlorobenzene	100	U	2.65	59.7	ug/L		60	(28%-93%)			
1,2-Dichlorobenzene	100	U	2.65	59.8	ug/L		60	(28%-94%)			
1,3-Dichlorobenzene	100	U	2.65	58.3	ug/L		58	(28%-89%)			
1,4-Dichlorobenzene	100	U	2.65	59.2	ug/L		59	(25%-95%)			

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
1,4-Dioxane	100	U	2.65	65.1	ug/L		65	(25%-103%)	JMB3	03/11/16	13:29
2,3,4,6-Tetrachlorophenol	100	U	2.65	93.3	ug/L		93	(29%-127%)			
2,4,5-Trichlorophenol	100	U	2.65	81.5	ug/L		82	(32%-124%)			
2,4,6-Trichlorophenol	100	U	2.65	83.6	ug/L		84	(33%-124%)			
2,4-Dichlorophenol	100	U	2.65	72.3	ug/L		72	(31%-121%)			
2,4-Dimethylphenol	100	U	2.65	71.7	ug/L		72	(28%-112%)			
2,4-Dinitrophenol	100	U	4.42	67.8	ug/L		68	(15%-140%)			
2,4-Dinitrotoluene	100	U	2.65	96.6	ug/L		97	(40%-126%)			
2,6-Dichlorophenol	100	U	2.65	82.3	ug/L		82	(32%-127%)			
2,6-Dinitrotoluene	100	U	2.65	89.1	ug/L		89	(41%-122%)			
2-Chloronaphthalene	100	U	0.363	66.6	ug/L		67	(31%-103%)			
2-Chlorophenol	100	U	2.65	70.0	ug/L		70	(27%-116%)			
2-Methyl-4,6-dinitrophenol	100	U	2.65	78.3	ug/L		78	(15%-142%)			
2-Methylnaphthalene	100	U	0.265	65.5	ug/L		65	(30%-103%)			
2-Nitrophenol	100	U	2.65	72.2	ug/L		72	(35%-121%)			
3,3'-Dichlorobenzidine	100	U	2.65	93.1	ug/L		93	(15%-135%)			
4-Bromophenylphenylether	100	U	2.65	76.6	ug/L		77	(37%-117%)			
4-Chloro-3-methylphenol	100	U	2.65	80.3	ug/L		80	(28%-130%)			
4-Chloroaniline	100	U	2.92	102	ug/L		102	(23%-158%)			
4-Chlorophenylphenylether	100	U	2.65	84.8	ug/L		85	(38%-116%)			
4-Nitrophenol	100	U	2.65	49.4	ug/L		49	(15%-88%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
Acenaphthene	100	U	0.265	74.1	ug/L		74	(35%-108%)			
Acenaphthylene	100	U	0.265	75.5	ug/L		75	(34%-113%)	JMB3	03/11/16	13:29
Acetophenone	100	U	2.65	75.0	ug/L		75	(42%-121%)			
Aniline	100	U	3.72	79.2	ug/L		79	(25%-123%)			
Anthracene	100	U	0.265	87.5	ug/L		88	(37%-112%)			
Benzo(a)anthracene	100	U	0.265	91.2	ug/L		91	(37%-116%)			
Benzo(a)pyrene	100	U	0.265	94.0	ug/L		94	(35%-117%)			
Benzo(b)fluoranthene	100	U	0.265	92.1	ug/L		92	(37%-121%)			
Benzo(ghi)perylene	100	J	0.274	107	ug/L		107	(22%-122%)			
Benzo(k)fluoranthene	100	U	0.265	93.8	ug/L		94	(37%-125%)			
Benzyl alcohol	100	U	2.65	73.2	ug/L		73	(38%-120%)			
Butylbenzylphthalate	100	U	2.65	87.0	ug/L		87	(33%-128%)			
Carbazole	100	U	0.265	93.3	ug/L		93	(36%-120%)			
Chrysene	100	U	0.265	96.4	ug/L		96	(36%-116%)			
Di-n-butylphthalate	100	U	2.65	97.5	ug/L		98	(37%-121%)			
Di-n-octylphthalate	100	U	2.65	96.0	ug/L		96	(32%-128%)			
Dibenzo(a,h)anthracene	100	J	0.292	108	ug/L		107	(27%-132%)			
Dibenzofuran	100	U	2.65	75.3	ug/L		75	(39%-115%)			
Diethylphthalate	100	U	2.65	98.2	ug/L		98	(39%-124%)			
Dimethylphthalate	100	U	2.65	91.8	ug/L		92	(42%-124%)			
Fluoranthene	100	U	0.265	98.6	ug/L		99	(35%-117%)			
Fluorene	100	U	0.265	81.5	ug/L		82	(36%-113%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
Hexachlorobenzene	100	U	2.65	84.1	ug/L		84	(36%-116%)			
Hexachlorobutadiene	100	U	2.65	59.9	ug/L		60	(22%-97%)	JMB3	03/11/16	13:29
Hexachlorocyclopentadiene	100	U	2.65	42.6	ug/L		43	(15%-80%)			
Hexachloroethane	100	U	2.65	56.7	ug/L		57	(23%-93%)			
Indeno(1,2,3-cd)pyrene	100	U	0.265	107	ug/L		107	(29%-126%)			
Isophorone	100	U	3.10	78.5	ug/L		79	(42%-115%)			
N-Methyl-N-nitrosomethylamine	100	U	2.65	60.9	ug/L		61	(28%-102%)			
N-Nitrosodipropylamine	100	U	2.65	76.5	ug/L		77	(38%-114%)			
N-Nitrosopyrrolidine	100	U	2.65	79.7	ug/L		80	(41%-125%)			
Naphthalene	100	U	0.265	64.7	ug/L		65	(31%-101%)			
Nitrobenzene	100	U	2.65	72.5	ug/L		73	(38%-119%)			
Pentachlorophenol	100	U	2.65	84.8	ug/L		85	(15%-135%)			
Phenanthrene	100	U	0.265	84.6	ug/L		85	(37%-113%)			
Phenol	100	U	2.65	43.7	ug/L		44	(15%-80%)			
Pyrene	100	U	0.265	76.5	ug/L		77	(31%-122%)			
Pyridine	100	U	2.65	54.4	ug/L		54	(15%-93%)			
Tributylphosphate	100	U	2.65	99.8	ug/L		100	(44%-121%)			
bis(2-Chloro-1-methylethyl)ether	100	U	2.65	73.9	ug/L		74	(33%-114%)			
bis(2-Chloroethoxy)methane	100	U	2.65	75.4	ug/L		75	(44%-117%)			
bis(2-Chloroethyl) ether	100	U	2.65	72.2	ug/L		72	(39%-113%)			
bis(2-Ethylhexyl)phthalate	100	U	2.65	87.4	ug/L		87	(33%-128%)			
diphenylamine+N-nitrosodiphenylamine	100	U	2.65	75.1	ug/L		75	(35%-108%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
m,p-Cresols	100	U	3.27	70.3	ug/L		70	(31%-118%)			
m-Nitroaniline	100	U	2.65	113	ug/L		113	(26%-162%)	JMB3	03/11/16	13:29
o-Cresol	100	U	2.65	69.9	ug/L		70	(32%-108%)			
o-Nitroaniline	100	U	2.65	82.3	ug/L		82	(27%-132%)			
p-Nitroaniline	100	U	2.65	107	ug/L		107	(15%-153%)			
**2,4,6-Tribromophenol	200		75.6	180	ug/L		90	(70%-130%)			
**2-Fluorobiphenyl	100		34.2	71.9	ug/L		72	(70%-130%)			
**2-Fluorophenol	200		33.3	107	ug/L		53 *	(70%-130%)			
**Nitrobenzene-d5	100		33.3	70.2	ug/L		70	(70%-130%)			
**Phenol-d5	200		20.5	81.0	ug/L		41 *	(70%-130%)			
**p-Terphenyl-d14	100		37.1	78.4	ug/L		78	(70%-130%)			
QC1203504905 392828003 MSD											
1,2,4,5-Tetrachlorobenzene	100	U	2.65	65.2	ug/L	1	65	(0%-20%)		03/11/16	13:57
1,2,4-Trichlorobenzene	100	U	2.65	59.3	ug/L	1	59	(0%-20%)			
1,2-Dichlorobenzene	100	U	2.65	55.7	ug/L	7	56	(0%-20%)			
1,3-Dichlorobenzene	100	U	2.65	54.0	ug/L	8	54	(0%-20%)			
1,4-Dichlorobenzene	100	U	2.65	55.9	ug/L	6	56	(0%-20%)			
1,4-Dioxane	100	U	2.65	60.0	ug/L	8	60	(0%-20%)			
2,3,4,6-Tetrachlorophenol	100	U	2.65	91.5	ug/L	2	92	(0%-20%)			
2,4,5-Trichlorophenol	100	U	2.65	79.4	ug/L	3	79	(0%-20%)			
2,4,6-Trichlorophenol	100	U	2.65	81.8	ug/L	2	82	(0%-20%)			
2,4-Dichlorophenol	100	U	2.65	71.0	ug/L	2	71	(0%-20%)			
2,4-Dimethylphenol	100	U	2.65	69.4	ug/L	3	69	(0%-20%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
2,4-Dinitrophenol	100	U	4.42	76.0	ug/L	11	76	(0%-20%)	JMB3	03/11/16	13:57
2,4-Dinitrotoluene	100	U	2.65	90.8	ug/L	6	91	(0%-20%)			
2,6-Dichlorophenol	100	U	2.65	80.9	ug/L	2	81	(0%-20%)			
2,6-Dinitrotoluene	100	U	2.65	86.5	ug/L	3	87	(0%-20%)			
2-Chloronaphthalene	100	U	0.363	67.6	ug/L	2	68	(0%-20%)			
2-Chlorophenol	100	U	2.65	65.0	ug/L	7	65	(0%-20%)			
2-Methyl-4,6-dinitrophenol	100	U	2.65	80.7	ug/L	3	81	(0%-20%)			
2-Methylnaphthalene	100	U	0.265	65.0	ug/L	1	65	(0%-20%)			
2-Nitrophenol	100	U	2.65	70.2	ug/L	3	70	(0%-20%)			
3,3'-Dichlorobenzidine	100	U	2.65	85.2	ug/L	9	85	(0%-20%)			
4-Bromophenylphenylether	100	U	2.65	74.1	ug/L	3	74	(0%-20%)			
4-Chloro-3-methylphenol	100	U	2.65	78.2	ug/L	3	78	(0%-20%)			
4-Chloroaniline	100	U	2.92	102	ug/L	1	102	(0%-20%)			
4-Chlorophenylphenylether	100	U	2.65	84.0	ug/L	1	84	(0%-20%)			
4-Nitrophenol	100	U	2.65	50.8	ug/L	3	51	(0%-20%)			
Acenaphthene	100	U	0.265	76.5	ug/L	3	77	(0%-20%)			
Acenaphthylene	100	U	0.265	77.1	ug/L	2	77	(0%-20%)			
Acetophenone	100	U	2.65	71.2	ug/L	5	71	(0%-20%)			
Aniline	100	U	3.72	76.5	ug/L	4	76	(0%-20%)			
Anthracene	100	U	0.265	80.4	ug/L	8	80	(0%-20%)			
Benzo(a)anthracene	100	U	0.265	87.9	ug/L	4	88	(0%-20%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
Benzo(a)pyrene	100	U	0.265	88.6	ug/L	6	89	(0%-20%)			
Benzo(b)fluoranthene	100	U	0.265	93.1	ug/L	1	93	(0%-20%)	JMB3	03/11/16	13:57
Benzo(ghi)perylene	100	J	0.274	87.6	ug/L	20	87	(0%-20%)			
Benzo(k)fluoranthene	100	U	0.265	93.4	ug/L	0	93	(0%-20%)			
Benzyl alcohol	100	U	2.65	67.6	ug/L	8	68	(0%-20%)			
Butylbenzylphthalate	100	U	2.65	86.4	ug/L	1	86	(0%-20%)			
Carbazole	100	U	0.265	87.1	ug/L	7	87	(0%-20%)			
Chrysene	100	U	0.265	92.3	ug/L	4	92	(0%-20%)			
Di-n-butylphthalate	100	U	2.65	91.0	ug/L	7	91	(0%-20%)			
Di-n-octylphthalate	100	U	2.65	85.9	ug/L	11	86	(0%-20%)			
Dibenzo(a,h)anthracene	100	J	0.292	86.5	ug/L	22*	86	(0%-20%)			
Dibenzofuran	100	U	2.65	76.6	ug/L	2	77	(0%-20%)			
Diethylphthalate	100	U	2.65	92.8	ug/L	6	93	(0%-20%)			
Dimethylphthalate	100	U	2.65	87.3	ug/L	5	87	(0%-20%)			
Fluoranthene	100	U	0.265	91.4	ug/L	8	91	(0%-20%)			
Fluorene	100	U	0.265	81.2	ug/L	0	81	(0%-20%)			
Hexachlorobenzene	100	U	2.65	78.9	ug/L	6	79	(0%-20%)			
Hexachlorobutadiene	100	U	2.65	59.0	ug/L	2	59	(0%-20%)			
Hexachlorocyclopentadiene	100	U	2.65	40.9	ug/L	4	41	(0%-20%)			
Hexachloroethane	100	U	2.65	54.1	ug/L	5	54	(0%-20%)			
Indeno(1,2,3-cd)pyrene	100	U	0.265	85.9	ug/L	22*	86	(0%-20%)			
Isophorone	100	U	3.10	77.6	ug/L	1	78	(0%-20%)			

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QC Summary

Workorder: 392828

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
N-Methyl-N-nitrosomethylamine	100	U	2.65	57.7	ug/L	5	58	(0%-20%)			
N-Nitrosodipropylamine	100	U	2.65	72.0	ug/L	6	72	(0%-20%)	JMB3	03/11/16	13:57
N-Nitrosopyrrolidine	100	U	2.65	74.7	ug/L	7	75	(0%-20%)			
Naphthalene	100	U	0.265	63.6	ug/L	2	64	(0%-20%)			
Nitrobenzene	100	U	2.65	71.2	ug/L	2	71	(0%-20%)			
Pentachlorophenol	100	U	2.65	82.7	ug/L	3	83	(0%-20%)			
Phenanthrene	100	U	0.265	79.8	ug/L	6	80	(0%-20%)			
Phenol	100	U	2.65	41.5	ug/L	5	41	(0%-20%)			
Pyrene	100	U	0.265	77.7	ug/L	2	78	(0%-20%)			
Pyridine	100	U	2.65	55.2	ug/L	1	55	(0%-20%)			
Tributylphosphate	100	U	2.65	95.3	ug/L	5	95	(0%-20%)			
bis(2-Chloro-1-methylethyl)ether	100	U	2.65	67.9	ug/L	8	68	(0%-20%)			
bis(2-Chloroethoxy)methane	100	U	2.65	75.0	ug/L	1	75	(0%-20%)			
bis(2-Chloroethyl) ether	100	U	2.65	66.9	ug/L	8	67	(0%-20%)			
bis(2-Ethylhexyl)phthalate	100	U	2.65	86.3	ug/L	1	86	(0%-20%)			
diphenylamine+N-nitrosodiphenylamine	100	U	2.65	71.6	ug/L	5	72	(0%-20%)			
m,p-Cresols	100	U	3.27	66.0	ug/L	6	66	(0%-20%)			
m-Nitroaniline	100	U	2.65	110	ug/L	2	110	(0%-20%)			
o-Cresol	100	U	2.65	65.7	ug/L	6	66	(0%-20%)			
o-Nitroaniline	100	U	2.65	81.3	ug/L	1	81	(0%-20%)			
p-Nitroaniline	100	U	2.65	102	ug/L	4	102	(0%-20%)			
**2,4,6-Tribromophenol	200		75.6	175	ug/L		88	(70%-130%)			

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1550975										
**2-Fluorobiphenyl	100	34.2		71.6	ug/L		72	(70%-130%)			
**2-Fluorophenol	200	33.3		99.6	ug/L		50*	(70%-130%)	JMB3	03/11/16	13:57
**Nitrobenzene-d5	100	33.3		69.0	ug/L		69*	(70%-130%)			
**Phenol-d5	200	20.5		76.6	ug/L		38*	(70%-130%)			
**p-Terphenyl-d14	100	37.1		80.4	ug/L		80	(70%-130%)			

Notes:

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated
- N Spike Sample recovery is outside control limits.
- P Aroclor target analyte with greater than 25% difference between column analyses.
- T Spike and/or spike duplicate sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- o Analyte failed to recover within LCS limits (Organics only)

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Surrogate Recovery Report

SDG Number: GEL392828

Matrix Type: LIQUID

Sample ID	Client ID	2FP %REC	PHL %REC	NBZ %REC	FBP %REC	TBP %REC	TPH %REC
1203504898	MB for batch 1550971	46 *	29 *	79	83	88	82
1203504899	LCS for batch 1550971	46 *	30 *	77	81	92	78
392828003	B34B46	38 *	23 *	75	77	85	84
1203504904	B34B46MS	53 *	41 *	70	72	90	78
1203504905	B34B46MSD	50 *	38 *	69 *	72	88	80
392828001	B34B45	34 *	21 *	68 *	74	78	73
392828005	B34B57	37 *	22 *	71	78	84	83
392828007	B34B79	30 *	18 *	64 *	71	75	74
392828010	B34B80	37 *	22 *	76	76	86	84

Surrogate

Acceptance Limits

2FP	= 2-Fluorophenol	(70%-130%)
PHL	= Phenol-d5	(70%-130%)
NBZ	= Nitrobenzene-d5	(70%-130%)
FBP	= 2-Fluorobiphenyl	(70%-130%)
TBP	= 2,4,6-Tribromophenol	(70%-130%)
TPH	= p-Terphenyl-d14	(70%-130%)

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

Pesticide Analysis

Case Narrative

**GC Semivolatile Pesticide
Technical Case Narrative
CH2MHill Plateau Remediation Company (CPRC)
SDG #: GEL392828
Work Order #: 392828**

Product: Organochlorine Pesticides and Chlorinated Hydrocarbons**Analytical Method:** SW846 3535A/8081B**Analytical Procedure:** GL-OA-E-041 REV# 14**Analytical Batch:** 1551216**Preparation Method:** SW846 3535A**Preparation Procedure:** GL-OA-E-070 REV# 8**Preparation Batch:** 1551215

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
392828001	B34B45
392828003	B34B46
392828005	B34B57
392828007	B34B79
392828010	B34B80
1203505545	Method Blank (MB)
1203505546	Laboratory Control Sample (LCS)
1203505547	392828005(B34B57) Matrix Spike (MS)
1203505548	392828005(B34B57) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information**Continuing Calibration Verification (CCV) Requirements**

The associated calibration verification standards (ICV or CCV) did not meet the acceptance criteria. One of the target analytes failed acceptance criteria with positive bias in the standard bracketing samples 392828007 (B34B79) and 392828010 (B34B80). The target analytes were not detected above the PQL in the samples; therefore, the non-compliance had no adverse effects on the data.

Quality Control (QC) Information**Surrogate Recoveries**

Samples (See Below) failed to meet acceptance criteria for surrogate recovery and were re-extracted. The client requested the initial data reported. The LCS in the re-extract batch failed several target analytes above the acceptance limit. All surrogates were within the 70-130% limits and target analytes were not detected in the samples.

Sample	Analyte	Value
392828007 (B34B79)	4cmx	69* (70%-130%)
392828010 (B34B80)	4cmx	7* (70.0%-130.0%)
	4cmx	8* (70.0%-130.0%)
	Decachlorobiphenyl	14* (70.0%-130.0%)
	Decachlorobiphenyl	4* (70.0%-130.0%)

Laboratory Control Sample (LCS/LCSD) Recovery

The LCS and/or LCSD (See Below) did not meet the spike recovery acceptance limits on both analytical columns. The batch was re-extracted. The client requested the initial data in this batch (1551216) reported. The LCS in the re-extract batch failed several target analytes above the acceptance limit. All surrogates were within the 70-130% limits and target analytes were not detected in the samples.

Sample	Analyte	Value
1203505546 (LCS)	Aldrin	56* (70.0%-130.0%)

Technical Information

Sample Re-extraction/Re-analysis

Samples 392828001 (B34B45), 392828003 (B34B46), 392828005 (B34B57), 392828007 (B34B79) and 392828010 (B34B80) were re-extracted due to the LCS failing Aldrin recovery. The client requested the initial data in this batch (1551216) reported.

Miscellaneous Information

Additional Comments

The Toxaphene and/or Chlordane standards were analyzed for this SDG as a retention time marker and pattern reference. A five-point calibration curve and calibration verification standard forms were not submitted in the data package since Toxaphene and/or Chlordane were not detected in the client samples.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

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**Qualifier Definition Report
for**

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL392828 GEL Work Order: 392828

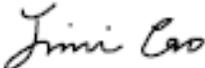
The Qualifiers in this report are defined as follows:

- E Concentration exceeds the calibration range of the instrument
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- DL Indicates that sample is diluted.
- RA Indicates that sample is re-analyzed without re-extraction.
- RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: Jimin Cao

Date: 31 MAR 2016

Title: Data Validator

Sample Data Summary

**Pesticide
Certificate of Analysis
Sample Summary**

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SDG Number: GEL392828	Date Collected: 03/08/2016 06:30	Matrix: WATER
Lab Sample ID: 392828001	Date Received: 03/09/2016 10:20	
Client ID: B34B45	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1551216	Method: SW846 3535A/8081B	SOP Ref: GL-OA-E-041
Run Date: 03/12/2016 17:39	Inst: ECD7A.I	Dilution: 1
Prep Date: 03/11/2016 05:45	Analyst: LOF	Inj. Vol: 1 uL
Data File: 031216.B\7C1219.D	Aliquot: 1000 mL	Final Volume: 5 mL
	Column: 1 CLPesticides	
		2 CLPesticides2

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	RDL	Column
309-00-2	Aldrin	U	0.00665	ug/L	0.00665	0.020	0.050	1
60-57-1	Dieldrin	U	0.010	ug/L	0.010	0.040	0.050	1
959-98-8	Endosulfan I	U	0.00665	ug/L	0.00665	0.020	0.050	1
76-44-8	Heptachlor	U	0.00665	ug/L	0.00665	0.020	0.050	1
1024-57-3	Heptachlor epoxide	U	0.00665	ug/L	0.00665	0.020	0.050	1
319-84-6	alpha-BHC	U	0.00665	ug/L	0.00665	0.020	0.050	1
319-85-7	beta-BHC	U	0.00665	ug/L	0.00665	0.020	0.050	1
5103-71-9	cis-Chlordane	U	0.00665	ug/L	0.00665	0.020	0.050	1
319-86-8	delta-BHC	U	0.00665	ug/L	0.00665	0.020	0.050	1
58-89-9	gamma-BHC (Lindane)	U	0.00665	ug/L	0.00665	0.020	0.050	1
72-54-8	4,4'-DDD	U	0.010	ug/L	0.010	0.040	0.100	1
72-55-9	4,4'-DDE	U	0.010	ug/L	0.010	0.040	0.100	1
50-29-3	4,4'-DDT	U	0.010	ug/L	0.010	0.040	0.100	1
33213-65-9	Endosulfan II	U	0.010	ug/L	0.010	0.040	0.100	1
1031-07-8	Endosulfan sulfate	U	0.010	ug/L	0.010	0.040	0.100	1
72-20-8	Endrin	U	0.010	ug/L	0.010	0.040	0.100	1
7421-93-4	Endrin aldehyde	U	0.00665	ug/L	0.00665	0.040	0.100	1
53494-70-5	Endrin ketone	U	0.010	ug/L	0.010	0.040	0.100	1
72-43-5	Methoxychlor	U	0.050	ug/L	0.050	0.200	0.500	1
5103-74-2	trans-Chlordane	U	0.00665	ug/L	0.00665	0.020	0.500	1
8001-35-2	Toxaphene	U	0.150	ug/L	0.150	0.500	2.00	1

**Pesticide
Certificate of Analysis
Sample Summary**

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SDG Number: GEL392828	Date Collected: 03/08/2016 09:43	Matrix: WATER
Lab Sample ID: 392828003	Date Received: 03/09/2016 10:20	
Client ID: B34B46	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1551216	Method: SW846 3535A/8081B	SOP Ref: GL-OA-E-041
Run Date: 03/12/2016 17:55	Inst: ECD7A.I	Dilution: 1
Prep Date: 03/11/2016 05:45	Analyst: LOF	Inj. Vol: 1 uL
Data File: 031216.B\7C1220.D	Aliquot: 1000 mL	Final Volume: 5 mL
	Column: 1 CLPesticides	
	2 CLPesticides2	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	RDL	Column
309-00-2	Aldrin	U	0.00665	ug/L	0.00665	0.020	0.050	1
60-57-1	Dieldrin	U	0.010	ug/L	0.010	0.040	0.050	1
959-98-8	Endosulfan I	U	0.00665	ug/L	0.00665	0.020	0.050	1
76-44-8	Heptachlor	U	0.00665	ug/L	0.00665	0.020	0.050	1
1024-57-3	Heptachlor epoxide	U	0.00665	ug/L	0.00665	0.020	0.050	1
319-84-6	alpha-BHC	U	0.00665	ug/L	0.00665	0.020	0.050	1
319-85-7	beta-BHC	U	0.00665	ug/L	0.00665	0.020	0.050	1
5103-71-9	cis-Chlordane	U	0.00665	ug/L	0.00665	0.020	0.050	1
319-86-8	delta-BHC	U	0.00665	ug/L	0.00665	0.020	0.050	1
58-89-9	gamma-BHC (Lindane)	U	0.00665	ug/L	0.00665	0.020	0.050	1
72-54-8	4,4'-DDD	U	0.010	ug/L	0.010	0.040	0.100	1
72-55-9	4,4'-DDE	U	0.010	ug/L	0.010	0.040	0.100	1
50-29-3	4,4'-DDT	U	0.010	ug/L	0.010	0.040	0.100	1
33213-65-9	Endosulfan II	U	0.010	ug/L	0.010	0.040	0.100	1
1031-07-8	Endosulfan sulfate	U	0.010	ug/L	0.010	0.040	0.100	1
72-20-8	Endrin	U	0.010	ug/L	0.010	0.040	0.100	1
7421-93-4	Endrin aldehyde	U	0.00665	ug/L	0.00665	0.040	0.100	1
53494-70-5	Endrin ketone	U	0.010	ug/L	0.010	0.040	0.100	1
72-43-5	Methoxychlor	U	0.050	ug/L	0.050	0.200	0.500	1
5103-74-2	trans-Chlordane	U	0.00665	ug/L	0.00665	0.020	0.500	1
8001-35-2	Toxaphene	U	0.150	ug/L	0.150	0.500	2.00	1

**Pesticide
Certificate of Analysis
Sample Summary**

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SDG Number: GEL392828	Date Collected: 03/08/2016 12:15	Matrix: WATER
Lab Sample ID: 392828005	Date Received: 03/09/2016 10:20	
Client ID: B34B57	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1551216	Method: SW846 3535A/8081B	SOP Ref: GL-OA-E-041
Run Date: 03/12/2016 18:11	Inst: ECD7A.I	Dilution: 1
Prep Date: 03/11/2016 05:45	Analyst: LOF	Inj. Vol: 1 uL
Data File: 031216.B\7C1221.D	Aliquot: 1000 mL	Final Volume: 5 mL
	Column: 1 CLPesticides	
	2 CLPesticides2	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	RDL	Column
309-00-2	Aldrin	U	0.00665	ug/L	0.00665	0.020	0.050	1
60-57-1	Dieldrin	U	0.010	ug/L	0.010	0.040	0.050	1
959-98-8	Endosulfan I	U	0.00665	ug/L	0.00665	0.020	0.050	1
76-44-8	Heptachlor	U	0.00665	ug/L	0.00665	0.020	0.050	1
1024-57-3	Heptachlor epoxide	U	0.00665	ug/L	0.00665	0.020	0.050	1
319-84-6	alpha-BHC	U	0.00665	ug/L	0.00665	0.020	0.050	1
319-85-7	beta-BHC	U	0.00665	ug/L	0.00665	0.020	0.050	1
5103-71-9	cis-Chlordane	U	0.00665	ug/L	0.00665	0.020	0.050	1
319-86-8	delta-BHC	U	0.00665	ug/L	0.00665	0.020	0.050	1
58-89-9	gamma-BHC (Lindane)	U	0.00665	ug/L	0.00665	0.020	0.050	1
72-54-8	4,4'-DDD	U	0.010	ug/L	0.010	0.040	0.100	1
72-55-9	4,4'-DDE	U	0.010	ug/L	0.010	0.040	0.100	1
50-29-3	4,4'-DDT	U	0.010	ug/L	0.010	0.040	0.100	1
33213-65-9	Endosulfan II	U	0.010	ug/L	0.010	0.040	0.100	1
1031-07-8	Endosulfan sulfate	U	0.010	ug/L	0.010	0.040	0.100	1
72-20-8	Endrin	U	0.010	ug/L	0.010	0.040	0.100	1
7421-93-4	Endrin aldehyde	U	0.00665	ug/L	0.00665	0.040	0.100	1
53494-70-5	Endrin ketone	U	0.010	ug/L	0.010	0.040	0.100	1
72-43-5	Methoxychlor	U	0.050	ug/L	0.050	0.200	0.500	1
5103-74-2	trans-Chlordane	U	0.00665	ug/L	0.00665	0.020	0.500	1
8001-35-2	Toxaphene	U	0.150	ug/L	0.150	0.500	2.00	1

Pesticide
Certificate of Analysis
Sample Summary

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SDG Number: GEL392828
Lab Sample ID: 392828007

Client ID: B34B79
Batch ID: 1551216
Run Date: 03/12/2016 19:31
Prep Date: 03/11/2016 05:45
Data File: 031216.B\7C1226.D
031216.B\7C1226.D

Date Collected: 03/08/2016 08:32
Date Received: 03/09/2016 10:20
Client: CPRC001
Method: SW846 3535A/8081B
Inst: ECD7A.I
Analyst: LOF
Aliquot: 1000 mL
Column: 1 CLPesticides
2 CLPesticides2

Matrix: WATER
Project: CPRC0W16003
SOP Ref: GL-OA-E-041
Dilution: 1
Inj. Vol: 1 uL
Final Volume: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	RDL	Column
309-00-2	Aldrin	U	0.00665	ug/L	0.00665	0.020	0.050	1
60-57-1	Dieldrin	U	0.010	ug/L	0.010	0.040	0.050	1
959-98-8	Endosulfan I	U	0.00665	ug/L	0.00665	0.020	0.050	1
76-44-8	Heptachlor	U	0.00665	ug/L	0.00665	0.020	0.050	1
1024-57-3	Heptachlor epoxide	U	0.00665	ug/L	0.00665	0.020	0.050	1
319-84-6	alpha-BHC	U	0.00665	ug/L	0.00665	0.020	0.050	1
319-85-7	beta-BHC	U	0.00665	ug/L	0.00665	0.020	0.050	1
5103-71-9	cis-Chlordane	U	0.00665	ug/L	0.00665	0.020	0.050	1
319-86-8	delta-BHC	U	0.00665	ug/L	0.00665	0.020	0.050	1
58-89-9	gamma-BHC (Lindane)	U	0.00665	ug/L	0.00665	0.020	0.050	1
72-54-8	4,4'-DDD	U	0.010	ug/L	0.010	0.040	0.100	1
72-55-9	4,4'-DDE	U	0.010	ug/L	0.010	0.040	0.100	1
50-29-3	4,4'-DDT	U	0.010	ug/L	0.010	0.040	0.100	1
33213-65-9	Endosulfan II	U	0.010	ug/L	0.010	0.040	0.100	1
1031-07-8	Endosulfan sulfate	U	0.010	ug/L	0.010	0.040	0.100	1
72-20-8	Endrin	U	0.010	ug/L	0.010	0.040	0.100	1
7421-93-4	Endrin aldehyde	U	0.00665	ug/L	0.00665	0.040	0.100	1
53494-70-5	Endrin ketone	U	0.010	ug/L	0.010	0.040	0.100	1
72-43-5	Methoxychlor	U	0.050	ug/L	0.050	0.200	0.500	1
5103-74-2	trans-Chlordane	U	0.00665	ug/L	0.00665	0.020	0.500	1
8001-35-2	Toxaphene	U	0.150	ug/L	0.150	0.500	2.00	1

**Pesticide
Certificate of Analysis
Sample Summary**

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SDG Number: GEL392828
 Lab Sample ID: 392828010
 Client ID: B34B80
 Batch ID: 1551216
 Run Date: 03/12/2016 19:47
 Prep Date: 03/11/2016 05:45
 Data File: 031216.B\7C1227.D
 031216.B\7C1227.D

Date Collected: 03/08/2016 08:32
 Date Received: 03/09/2016 10:20
 Client: CPRC001
 Method: SW846 3535A/8081B
 Inst: ECD7A.I
 Analyst: LOF
 Aliquot: 1000 mL
 Column: 1 CLPesticides
 2 CLPesticides2

Matrix: WATER
 Project: CPRC0W16003
 SOP Ref: GL-OA-E-041
 Dilution: 1
 Inj. Vol: 1 uL
 Final Volume: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	RDL	Column
309-00-2	Aldrin	U	0.00665	ug/L	0.00665	0.020	0.050	1
60-57-1	Dieldrin	U	0.010	ug/L	0.010	0.040	0.050	1
959-98-8	Endosulfan I	U	0.00665	ug/L	0.00665	0.020	0.050	1
76-44-8	Heptachlor	U	0.00665	ug/L	0.00665	0.020	0.050	1
1024-57-3	Heptachlor epoxide	U	0.00665	ug/L	0.00665	0.020	0.050	1
319-84-6	alpha-BHC	U	0.00665	ug/L	0.00665	0.020	0.050	1
319-85-7	beta-BHC	U	0.00665	ug/L	0.00665	0.020	0.050	1
5103-71-9	cis-Chlordane	U	0.00665	ug/L	0.00665	0.020	0.050	1
319-86-8	delta-BHC	U	0.00665	ug/L	0.00665	0.020	0.050	1
58-89-9	gamma-BHC (Lindane)	U	0.00665	ug/L	0.00665	0.020	0.050	1
72-54-8	4,4'-DDD	U	0.010	ug/L	0.010	0.040	0.100	1
72-55-9	4,4'-DDE	U	0.010	ug/L	0.010	0.040	0.100	1
50-29-3	4,4'-DDT	U	0.010	ug/L	0.010	0.040	0.100	1
33213-65-9	Endosulfan II	U	0.010	ug/L	0.010	0.040	0.100	1
1031-07-8	Endosulfan sulfate	U	0.010	ug/L	0.010	0.040	0.100	1
72-20-8	Endrin	U	0.010	ug/L	0.010	0.040	0.100	1
7421-93-4	Endrin aldehyde	U	0.00665	ug/L	0.00665	0.040	0.100	1
53494-70-5	Endrin ketone	U	0.010	ug/L	0.010	0.040	0.100	1
72-43-5	Methoxychlor	U	0.050	ug/L	0.050	0.200	0.500	1
5103-74-2	trans-Chlordane	U	0.00665	ug/L	0.00665	0.020	0.500	1
8001-35-2	Toxaphene	U	0.150	ug/L	0.150	0.500	2.00	1

Quality Control Summary

Pesticide

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Surrogate Recovery Report

SDG Number: GEL392828

Matrix Type: LIQUID

Sample ID	Client ID	4CMX 1 %REC #	4CMX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #
1203505545	MB for batch 1551215	70	70	85	83
1203505546	LCS for batch 1551215	74	74	92	90
392828001	B34B45	70	71	74	74
392828003	B34B46	79	82	90	91
392828005	B34B57	76	76	89	88
1203505547	B34B57MS	77	79	89	90
1203505548	B34B57MSD	70	71	85	85
392828007	B34B79	69 *	71	81	81
392828010	B34B80	8 *	7 *	14 *	4 *

Surrogate

4CMX = 4cmx

DCB = Decachlorobiphenyl

Acceptance Limits

(70%-130%)

(70%-130%)

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

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QC Summary

Report Date: March 31, 2016

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CH2M Hill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Contact: Mr. Scot Fitzgerald

Workorder: 392828

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-Pesticide											
Batch	1551216										
QC1203505546	LCS										
4,4'-DDD	1.25			1.15	ug/L		92	(70%-130%)	LOF	03/12/16	16:35
4,4'-DDE	1.25			1.17	ug/L		93	(70%-130%)			
4,4'-DDT	1.25			1.04	ug/L		84	(70%-130%)			
Aldrin	0.500			0.278	ug/L		56*	(70%-130%)			
Dieldrin	1.25			1.27	ug/L		101	(70%-130%)			
Endosulfan I	0.500			0.431	ug/L		86	(70%-130%)			
Endosulfan II	1.25			1.10	ug/L		88	(70%-130%)			
Endosulfan sulfate	1.25			1.24	ug/L		99	(70%-130%)			
Endrin	1.25			1.08	ug/L		86	(70%-130%)			
Endrin aldehyde	1.25			1.05	ug/L		84	(70%-130%)			
Endrin ketone	1.25			1.20	ug/L		96	(70%-130%)			
Heptachlor	0.500			0.443	ug/L		89	(70%-130%)			
Heptachlor epoxide	0.500			0.461	ug/L		92	(70%-130%)			
Methoxychlor	5.00			4.90	ug/L		98	(70%-130%)			
alpha-BHC	0.500			0.467	ug/L		93	(70%-130%)			
beta-BHC	0.500			0.414	ug/L		83	(70%-130%)			
cis-Chlordane	0.500			0.491	ug/L		98	(70%-130%)			
delta-BHC	0.500			0.478	ug/L		96	(70%-130%)			
gamma-BHC (Lindane)	0.500			0.449	ug/L		90	(70%-130%)			
trans-Chlordane	0.500		J	0.465	ug/L		93	(70%-130%)			

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-Pesticide											
Batch	1551216										
**4cmx	1.00			0.736	ug/L		74	(70%-130%)	LOF	03/12/16	16:35
**Decachlorobiphenyl	1.00			0.903	ug/L		90	(70%-130%)			
QC1203505545	MB										
4,4'-DDD			U	0.010	ug/L					03/12/16	16:19
4,4'-DDE			U	0.010	ug/L						
4,4'-DDT			U	0.010	ug/L						
Aldrin			U	0.00665	ug/L						
Dieldrin			U	0.010	ug/L						
Endosulfan I			U	0.00665	ug/L						
Endosulfan II			U	0.010	ug/L						
Endosulfan sulfate			U	0.010	ug/L						
Endrin			U	0.010	ug/L						
Endrin aldehyde			U	0.00665	ug/L						
Endrin ketone			U	0.010	ug/L						
Heptachlor			U	0.00665	ug/L						
Heptachlor epoxide			U	0.00665	ug/L						
Methoxychlor			U	0.050	ug/L						
Toxaphene			U	0.150	ug/L						
alpha-BHC			U	0.00665	ug/L						
beta-BHC			U	0.00665	ug/L						
cis-Chlordane			U	0.00665	ug/L						
delta-BHC			U	0.00665	ug/L						

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-Pesticide											
Batch	1551216										
gamma-BHC (Lindane)			U	0.00665	ug/L				LOF	03/12/16	16:19
trans-Chlordane			U	0.00665	ug/L						
**4cmx	1.00			0.695	ug/L		70	(70%-130%)			
**Decachlorobiphenyl	1.00			0.827	ug/L		83	(70%-130%)			
QC1203505547 392828005 MS											
4,4'-DDD	1.25	U	0.010	1.16	ug/L		93	(25%-151%)		03/12/16	18:27
4,4'-DDE	1.25	U	0.010	1.24	ug/L		99	(32%-126%)			
4,4'-DDT	1.25	U	0.010	1.13	ug/L		90	(24%-139%)			
Aldrin	0.500	U	0.00665	0.328	ug/L		66	(15%-128%)			
Dieldrin	1.25	U	0.010	1.27	ug/L		102	(40%-134%)			
Endosulfan I	0.500	U	0.00665	0.414	ug/L		83	(26%-133%)			
Endosulfan II	1.25	U	0.010	1.13	ug/L		91	(29%-133%)			
Endosulfan sulfate	1.25	U	0.010	1.22	ug/L		98	(32%-151%)			
Endrin	1.25	U	0.010	1.32	ug/L		106	(15%-151%)			
Endrin aldehyde	1.25	U	0.00665	1.07	ug/L		85	(15%-132%)			
Endrin ketone	1.25	U	0.010	1.16	ug/L		93	(38%-148%)			
Heptachlor	0.500	U	0.00665	0.445	ug/L		89	(27%-131%)			
Heptachlor epoxide	0.500	U	0.00665	0.462	ug/L		92	(33%-134%)			
Methoxychlor	5.00	U	0.050	4.78	ug/L		96	(31%-148%)			
alpha-BHC	0.500	U	0.00665	0.435	ug/L		87	(30%-133%)			
beta-BHC	0.500	U	0.00665	0.387	ug/L		77	(29%-138%)			
cis-Chlordane	0.500	U	0.00665	0.481	ug/L		96	(34%-128%)			

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-Pesticide											
Batch	1551216										
delta-BHC	0.500	U	0.00665		0.441	ug/L	88	(33%-141%)	LOF	03/12/16	18:27
gamma-BHC (Lindane)	0.500	U	0.00665		0.424	ug/L	85	(35%-131%)			
trans-Chlordane	0.500	U	0.00665	J	0.442	ug/L	88	(33%-138%)			
**4cmx	1.00		0.756		0.771	ug/L	77	(70%-130%)			
**Decachlorobiphenyl	1.00		0.876		0.896	ug/L	90	(70%-130%)			
QC1203505548	392828005	MSD									
4,4'-DDD	1.25	U	0.010		1.11	ug/L	4	89	(0%-20%)	03/12/16	18:43
4,4'-DDE	1.25	U	0.010		1.17	ug/L	6	94	(0%-20%)		
4,4'-DDT	1.25	U	0.010		1.09	ug/L	3	87	(0%-20%)		
Aldrin	0.500	U	0.00665		0.395	ug/L	19	79	(0%-20%)		
Dieldrin	1.25	U	0.010		1.18	ug/L	8	94	(0%-20%)		
Endosulfan I	0.500	U	0.00665		0.360	ug/L	14	72	(0%-20%)		
Endosulfan II	1.25	U	0.010		0.991	ug/L	13	79	(0%-20%)		
Endosulfan sulfate	1.25	U	0.010		1.12	ug/L	8	90	(0%-20%)		
Endrin	1.25	U	0.010		1.23	ug/L	7	99	(0%-20%)		
Endrin aldehyde	1.25	U	0.00665		0.991	ug/L	7	79	(0%-20%)		
Endrin ketone	1.25	U	0.010		1.10	ug/L	5	88	(0%-20%)		
Heptachlor	0.500	U	0.00665		0.424	ug/L	5	85	(0%-20%)		
Heptachlor epoxide	0.500	U	0.00665		0.382	ug/L	19	76	(0%-20%)		
Methoxychlor	5.00	U	0.050		4.56	ug/L	5	91	(0%-20%)		
alpha-BHC	0.500	U	0.00665		0.430	ug/L	1	86	(0%-20%)		
beta-BHC	0.500	U	0.00665		0.417	ug/L	7	83	(0%-20%)		

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-Pesticide											
Batch	1551216										
cis-Chlordane	0.500	U	0.00665		0.439	ug/L	9	88	(0%-20%)	LOF	03/12/16 18:43
delta-BHC	0.500	U	0.00665		0.442	ug/L	0	88	(0%-20%)		
gamma-BHC (Lindane)	0.500	U	0.00665		0.421	ug/L	1	84	(0%-20%)		
trans-Chlordane	0.500	U	0.00665	J	0.372	ug/L	17	74	(0%-20%)		
**4cmx	1.00		0.756		0.703	ug/L		70	(70%-130%)		
**Decachlorobiphenyl	1.00		0.876		0.847	ug/L		85	(70%-130%)		

Notes:

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).Value is estimated
- N Spike Sample recovery is outside control limits.
- P Aroclor target analyte with greater than 25% difference between column analyses.
- T Spike and/or spike duplicate sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- o Analyte failed to recover within LCS limits (Organics only)

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

PCB Analysis

Case Narrative

**GC Semivolatile PCB
 Technical Case Narrative
 CH2MHill Plateau Remediation Company (CPRC)
 SDG #: GEL392828
 Work Order #: 392828**

Product: Analysis of Polychlorinated Biphenyls by ECD

Analytical Method: 8082_PCB_GC

Analytical Procedure: GL-OA-E-040 REV# 21

Analytical Batch: 1553621

Preparation Method: SW846 3535A

Preparation Procedure: GL-OA-E-070 REV# 8

Preparation Batch: 1553613

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
392828001	B34B45
392828003	B34B46
392828005	B34B57
392828007	B34B79
392828010	B34B80
1203511861	Method Blank (MB)
1203511862	Laboratory Control Sample (LCS)
1203511865	392828007(B34B79) Matrix Spike (MS)
1203511866	392828007(B34B79) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Surrogate Recoveries

Samples (See Below) recovered below the client specified acceptance limits of 70-130% but within the laboratory SPC limits for the surrogate recovery.

Sample	Analyte	Value
1203511861 (MB)	4cmx	58* (70%-130%)
	4cmx	67* (70%-130%)
1203511862 (LCS)	4cmx	58* (70%-130%)
	4cmx	66* (70%-130%)
1203511865 (B34B79MS)	4cmx	58* (70%-130%)
	4cmx	68* (70%-130%)

1203511866 (B34B79MSD)	4cmx	54* (70%-130%)
	4cmx	63* (70%-130%)
392828001 (B34B45)	4cmx	60* (70%-130%)
	Decachlorobiphenyl	67* (70%-130%)
	Decachlorobiphenyl	68* (70%-130%)
392828003 (B34B46)	4cmx	62* (70%-130%)
392828005 (B34B57)	4cmx	53* (70%-130%)
	4cmx	62* (70%-130%)
	Decachlorobiphenyl	66* (70%-130%)
	Decachlorobiphenyl	67* (70%-130%)
392828007 (B34B79)	4cmx	51* (70%-130%)
	4cmx	59* (70%-130%)
	Decachlorobiphenyl	62* (70%-130%)
392828010 (B34B80)	4cmx	55* (70%-130%)
	4cmx	65* (70%-130%)
	Decachlorobiphenyl	69* (70%-130%)

Technical Information

Preparation/Analytical Method Verification

All samples and QC in this batch were cleaned using alumina in order to remove oil and other high molecular weight interferences. All samples and QC in this batch were cleaned with activated copper in order to remove sulfur. All reported analyte detections in client and quality control samples were within the established retention time windows. Reported analyte concentrations were confirmed on dissimilar columns.

Miscellaneous Information

Manual integrations

Sample 1203511862 (LCS) required manual integration to correctly position the baseline as set in the calibration standard injections.

Additional Comments

The column 2 has been chosen as the primary column. The data are reported from the column 2 for all samples in this batch.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

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**Qualifier Definition Report
for**

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL392828 GEL Work Order: 392828

The Qualifiers in this report are defined as follows:

U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.

DL Indicates that sample is diluted.

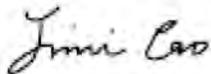
RA Indicates that sample is re-analyzed without re-extraction.

RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: Jimin Cao

Date: 31 MAR 2016

Title: Data Validator

Sample Data Summary

PCB
Certificate of Analysis
Sample Summary

SDG Number: GEL392828
Lab Sample ID: 392828001

Client ID: B34B45
Batch ID: 1553621
Run Date: 03/24/2016 08:39
Prep Date: 03/23/2016 16:10
Data File: 032416.B\8c2416.D
032416.B\8c2416.D

Date Collected: 03/08/2016 06:30
Date Received: 03/09/2016 10:20
Client: CPRC001
Method: 8082_PCB_GC
Inst: ECD8A.I
Analyst: JXM
Aliquot: 1050 mL
Column: 1 RTX-CLPEST1
2 RTX-CLPEST2

Matrix: WATER

Project: CPRC0W16003
SOP Ref: GL-OA-E-040
Dilution: 1
Inj. Vol: 1 uL
Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0317	ug/L	0.0317	0.0952	2
11104-28-2	Aroclor-1221	U	0.0317	ug/L	0.0317	0.0952	2
11141-16-5	Aroclor-1232	U	0.0317	ug/L	0.0317	0.0952	2
53469-21-9	Aroclor-1242	U	0.0317	ug/L	0.0317	0.0952	2
12672-29-6	Aroclor-1248	U	0.0317	ug/L	0.0317	0.0952	2
11097-69-1	Aroclor-1254	U	0.0317	ug/L	0.0317	0.0952	2
11096-82-5	Aroclor-1260	U	0.0317	ug/L	0.0317	0.0952	2

PCB
Certificate of Analysis
Sample Summary

SDG Number: GEL392828
Lab Sample ID: 392828003

Client ID: B34B46
Batch ID: 1553621
Run Date: 03/24/2016 08:51
Prep Date: 03/23/2016 16:10
Data File: 032416.B\8c2417.D
032416.B\8c2417.D

Date Collected: 03/08/2016 09:43
Date Received: 03/09/2016 10:20
Client: CPRC001
Method: 8082_PCB_GC
Inst: ECD8A.I
Analyst: JXM
Aliquot: 1060 mL
Column: 1 RTX-CLPEST1
2 RTX-CLPEST2

Matrix: WATER

Project: CPRC0W16003
SOP Ref: GL-OA-E-040
Dilution: 1
Inj. Vol: 1 uL
Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0314	ug/L	0.0314	0.0943	2
11104-28-2	Aroclor-1221	U	0.0314	ug/L	0.0314	0.0943	2
11141-16-5	Aroclor-1232	U	0.0314	ug/L	0.0314	0.0943	2
53469-21-9	Aroclor-1242	U	0.0314	ug/L	0.0314	0.0943	2
12672-29-6	Aroclor-1248	U	0.0314	ug/L	0.0314	0.0943	2
11097-69-1	Aroclor-1254	U	0.0314	ug/L	0.0314	0.0943	2
11096-82-5	Aroclor-1260	U	0.0314	ug/L	0.0314	0.0943	2

**PCB
Certificate of Analysis
Sample Summary**

SDG Number: GEL392828	Date Collected: 03/08/2016 12:15	Matrix: WATER
Lab Sample ID: 392828005	Date Received: 03/09/2016 10:20	
Client ID: B34B57	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1553621	Method: 8082_PCB_GC	SOP Ref: GL-OA-E-040
Run Date: 03/24/2016 09:04	Inst: ECD8A.I	Dilution: 1
Prep Date: 03/23/2016 16:10	Analyst: JXM	Inj. Vol: 1 uL
Data File: 032416.B\8c2418.D	Aliquot: 1050 mL	Final Volume: 1 mL
	Column: 1 RTX-CLPEST1	
	2 RTX-CLPEST2	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0317	ug/L	0.0317	0.0952	2
11104-28-2	Aroclor-1221	U	0.0317	ug/L	0.0317	0.0952	2
11141-16-5	Aroclor-1232	U	0.0317	ug/L	0.0317	0.0952	2
53469-21-9	Aroclor-1242	U	0.0317	ug/L	0.0317	0.0952	2
12672-29-6	Aroclor-1248	U	0.0317	ug/L	0.0317	0.0952	2
11097-69-1	Aroclor-1254	U	0.0317	ug/L	0.0317	0.0952	2
11096-82-5	Aroclor-1260	U	0.0317	ug/L	0.0317	0.0952	2

PCB
Certificate of Analysis
Sample Summary

SDG Number: GEL392828
Lab Sample ID: 392828007

Client ID: B34B79
Batch ID: 1553621
Run Date: 03/24/2016 09:16
Prep Date: 03/23/2016 16:10
Data File: 032416.B\8c2419.D
032416.B\8c2419.D

Date Collected: 03/08/2016 08:32
Date Received: 03/09/2016 10:20
Client: CPRC001
Method: 8082_PCB_GC
Inst: ECD8A.I
Analyst: JXM
Aliquot: 1040 mL
Column: 1 RTX-CLPEST1
2 RTX-CLPEST2

Matrix: WATER

Project: CPRC0W16003
SOP Ref: GL-OA-E-040
Dilution: 1
Inj. Vol: 1 uL
Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.032	ug/L	0.032	0.0962	2
11104-28-2	Aroclor-1221	U	0.032	ug/L	0.032	0.0962	2
11141-16-5	Aroclor-1232	U	0.032	ug/L	0.032	0.0962	2
53469-21-9	Aroclor-1242	U	0.032	ug/L	0.032	0.0962	2
12672-29-6	Aroclor-1248	U	0.032	ug/L	0.032	0.0962	2
11097-69-1	Aroclor-1254	U	0.032	ug/L	0.032	0.0962	2
11096-82-5	Aroclor-1260	U	0.032	ug/L	0.032	0.0962	2

PCB
Certificate of Analysis
Sample Summary

SDG Number: GEL392828
Lab Sample ID: 392828010

Client ID: B34B80
Batch ID: 1553621
Run Date: 03/24/2016 10:17
Prep Date: 03/23/2016 16:10
Data File: 032416.B\8c2424.D
032416.B\8c2424.D

Date Collected: 03/08/2016 08:32
Date Received: 03/09/2016 10:20
Client: CPRC001
Method: 8082_PCB_GC
Inst: ECD8A.I
Analyst: JXM
Aliquot: 1040 mL
Column: 1 RTX-CLPEST1
2 RTX-CLPEST2

Matrix: WATER

Project: CPRC0W16003
SOP Ref: GL-OA-E-040
Dilution: 1
Inj. Vol: 1 uL
Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.032	ug/L	0.032	0.0962	2
11104-28-2	Aroclor-1221	U	0.032	ug/L	0.032	0.0962	2
11141-16-5	Aroclor-1232	U	0.032	ug/L	0.032	0.0962	2
53469-21-9	Aroclor-1242	U	0.032	ug/L	0.032	0.0962	2
12672-29-6	Aroclor-1248	U	0.032	ug/L	0.032	0.0962	2
11097-69-1	Aroclor-1254	U	0.032	ug/L	0.032	0.0962	2
11096-82-5	Aroclor-1260	U	0.032	ug/L	0.032	0.0962	2

Quality Control Summary

PCB
Surrogate Recovery Report

SDG Number: GEL392828

Matrix Type: LIQUID

Sample ID	Client ID	4CMX 1 %REC #	4CMX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #
1203511861	MB for batch 1553613	58 *	67 *	74	75
1203511862	LCS for batch 1553613	58 *	66 *	72	73
392828001	B34B45	60 *	70	68 *	67 *
392828003	B34B46	62 *	73	72	72
392828005	B34B57	53 *	62 *	66 *	67 *
392828007	B34B79	51 *	59 *	62 *	62 *
1203511865	B34B79MS	58 *	68 *	75	74
1203511866	B34B79MSD	54 *	63 *	71	72
392828010	B34B80	55 *	65 *	70	69 *

Surrogate

4CMX = 4cmx

DCB = Decachlorobiphenyl

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

Acceptance Limits

(70%–130%)

(70%–130%)

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QC Summary

Report Date: March 31, 2016

Page 1 of 1

CH2MHill Plateau Remediation Company
 MSIN R3-50 CHPRC
 PO Box 1600
 Richland, Washington

Contact: Mr. Scot Fitzgerald

Workorder: 392828

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-PCB											
Batch	1553621										
QC1203511862	LCS										
Aroclor-1016	0.500			0.360	ug/L		72	(70%-130%)	JXM	03/24/16	08
Aroclor-1260	0.500			0.349	ug/L		70	(70%-130%)			
**4cmx	0.200			0.131	ug/L		66 *	(70%-130%)			
**Decachlorobiphenyl	0.200			0.145	ug/L		73	(70%-130%)			
QC1203511861	MB										
Aroclor-1016			U	0.0333	ug/L					03/24/16	07
Aroclor-1221			U	0.0333	ug/L						
Aroclor-1232			U	0.0333	ug/L						
Aroclor-1242			U	0.0333	ug/L						
Aroclor-1248			U	0.0333	ug/L						
Aroclor-1254			U	0.0333	ug/L						
Aroclor-1260			U	0.0333	ug/L						
**4cmx	0.200			0.133	ug/L		67 *	(70%-130%)			
**Decachlorobiphenyl	0.200			0.150	ug/L		75	(70%-130%)			
QC1203511865	392828007 MS										
Aroclor-1016	0.962	U	0.032	0.651	ug/L		68	(26%-110%)		03/24/16	09
Aroclor-1260	0.962	U	0.032	0.622	ug/L		65	(30%-127%)			
**4cmx	0.192		0.113	0.131	ug/L		68 *	(70%-130%)			
**Decachlorobiphenyl	0.192		0.120	0.143	ug/L		74	(70%-130%)			
QC1203511866	392828007 MSD										
Aroclor-1016	0.962	U	0.032	0.609	ug/L	7	63	(0%-15%)		03/24/16	09

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QC Summary

Workorder: 392828

Page 2 of 2

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-PCB											
Batch	1553621										
Aroclor-1260	0.962	U	0.032	0.585	ug/L	6	61	(0%-15%)			
**4cmx	0.192		0.113	0.121	ug/L		63*	(70%-130%)	JXM	03/24/16	09
**Decachlorobiphenyl	0.192		0.120	0.138	ug/L		72	(70%-130%)			

Notes:

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated
- N Spike Sample recovery is outside control limits.
- P Aroclor target analyte with greater than 25% difference between column analyses.
- T Spike and/or spike duplicate sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- o Analyte failed to recover within LCS limits (Organics only)

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Herbicide Analysis

Case Narrative

**GC Semivolatile Herbicide
Technical Case Narrative
CH2MHill Plateau Remediation Company (CPRC)
SDG #: GEL392828
Work Order #: 392828**

Product: Analysis of Chlorophenoxy Acid Herbicides by ECD

Analytical Method: SW846 8151A

Analytical Procedure: GL-OA-E-011 REV# 22

Analytical Batches: 1551985 and 1551981

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
392828001	B34B45
392828003	B34B46
392828005	B34B57
392828007	B34B79
392828010	B34B80
1203507717	Method Blank (MB)
1203507718	Laboratory Control Sample (LCS)
1203507721	392828001(B34B45) Matrix Spike (MS)
1203507722	392828001(B34B45) Matrix Spike Duplicate (MSD)
1203507723	Laboratory Control Sample Duplicate (LCSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Laboratory Control Sample (LCS) Recovery

The LCS/LCSD (See Below) did not meet the CPRC spike recovery acceptance criteria for Dinoseb. Since the spike recoveries were within GEL spike recovery acceptance criteria, the data were reported.

Sample	Analyte	Value
1203507718 (LCS)	Dinoseb	49* (70%-130%)
1203507723 (LCSD)	Dinoseb	53* (70%-130%)

LCS/LCSD Relative Percent Difference (RPD) Statement

The LCS/LCSD RPD did not meet the acceptance criteria. Since the individual recoveries were within the acceptance limits in the LCS and LCSD, the non-conformance had no adverse impact on the reported data.

Sample	Analyte	Value
1203507718 (LCS) and 1203507723 (LCSD)	2,4-DB	25* (0%-20%)

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

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**Qualifier Definition Report
for**

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL392828 GEL Work Order: 392828

The Qualifiers in this report are defined as follows:

U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.

DL Indicates that sample is diluted.

RA Indicates that sample is re-analyzed without re-extraction.

RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: Barbara Bailey

Date: 31 MAR 2016

Title: Data Validator

Sample Data Summary

**Herbicide
Certificate of Analysis
Sample Summary**

Page 1 of 1

SDG Number: GEL392828	Date Collected: 03/08/2016 06:30	Matrix: WATER
Lab Sample ID: 392828001	Date Received: 03/09/2016 10:20	
Client ID: B34B45	Client: CPCR001	Project: CPCR0W16003
Batch ID: 1551985	Method: SW846 8151A	SOP Ref: GL-OA-E-011
Run Date: 03/17/2016 17:48	Inst: ECD3A.I	Dilution: 1
Prep Date: 03/15/2016 05:25	Analyst: LOF	Inj. Vol: 1 uL
Data File: 031716\E3c1715.D	Aliquot: 1020 mL	Final Volume: 10 mL
	Column: 1 RTX-CLPEST 1	
	2 RTX-CLPEST 2	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
93-76-5	2,4,5-T	U	0.0817	ug/L	0.0817	0.245	1
93-72-1	2,4,5-TP	U	0.0817	ug/L	0.0817	0.245	1
94-75-7	2,4-D	U	0.0817	ug/L	0.0817	0.245	1
94-82-6	2,4-DB	U	0.0905	ug/L	0.0905	0.245	1
75-99-0	Dalapon	U	1.63	ug/L	1.63	4.90	1
1918-00-9	Dicamba	U	0.0817	ug/L	0.0817	0.245	1
120-36-5	Dichlorprop	U	0.0817	ug/L	0.0817	0.245	1
88-85-7	Dinoseb	U	0.0817	ug/L	0.0817	0.245	1
94-74-6	MCPA	U	16.3	ug/L	16.3	49.0	1
93-65-2	MCPA	U	16.3	ug/L	16.3	49.0	1

Herbicide
Certificate of Analysis
Sample Summary

Page 1 of 1

SDG Number: GEL392828	Date Collected: 03/08/2016 09:43	Matrix: WATER
Lab Sample ID: 392828003	Date Received: 03/09/2016 10:20	
Client ID: B34B46	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1551985	Method: SW846 8151A	SOP Ref: GL-OA-E-011
Run Date: 03/17/2016 18:47	Inst: ECD3A.I	Dilution: 1
Prep Date: 03/15/2016 05:25	Analyst: LOF	Inj. Vol: 1 uL
Data File: 031716\E3c1718.D	Aliquot: 1010 mL	Final Volume: 10 mL
	Column: 1 RTX-CLPEST 1	
	2 RTX-CLPEST 2	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
93-76-5	2,4,5-T	U	0.0825	ug/L	0.0825	0.248	1
93-72-1	2,4,5-TP	U	0.0825	ug/L	0.0825	0.248	1
94-75-7	2,4-D	U	0.0825	ug/L	0.0825	0.248	1
94-82-6	2,4-DB	U	0.0914	ug/L	0.0914	0.248	1
75-99-0	Dalapon	U	1.65	ug/L	1.65	4.95	1
1918-00-9	Dicamba	U	0.0825	ug/L	0.0825	0.248	1
120-36-5	Dichlorprop	U	0.0825	ug/L	0.0825	0.248	1
88-85-7	Dinoseb	U	0.0825	ug/L	0.0825	0.248	1
94-74-6	MCPA	U	16.5	ug/L	16.5	49.5	1
93-65-2	MCPA	U	16.5	ug/L	16.5	49.5	1

**Herbicide
 Certificate of Analysis
 Sample Summary**

SDG Number: GEL392828	Date Collected: 03/08/2016 12:15	Matrix: WATER
Lab Sample ID: 392828005	Date Received: 03/09/2016 10:20	
Client ID: B34B57	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1551985	Method: SW846 8151A	SOP Ref: GL-OA-E-011
Run Date: 03/17/2016 19:06	Inst: ECD3A.I	Dilution: 1
Prep Date: 03/15/2016 05:25	Analyst: LOF	Inj. Vol: 1 uL
Data File: 031716\E3c1719.D	Aliquot: 1030 mL	Final Volume: 10 mL
	Column: 1 RTX-CLPEST 1	
	2 RTX-CLPEST 2	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
93-76-5	2,4,5-T	U	0.0809	ug/L	0.0809	0.243	1
93-72-1	2,4,5-TP	U	0.0809	ug/L	0.0809	0.243	1
94-75-7	2,4-D	U	0.0809	ug/L	0.0809	0.243	1
94-82-6	2,4-DB	U	0.0896	ug/L	0.0896	0.243	1
75-99-0	Dalapon	U	1.62	ug/L	1.62	4.85	1
1918-00-9	Dicamba	U	0.0809	ug/L	0.0809	0.243	1
120-36-5	Dichlorprop	U	0.0809	ug/L	0.0809	0.243	1
88-85-7	Dinoseb	U	0.0809	ug/L	0.0809	0.243	1
94-74-6	MCPA	U	16.2	ug/L	16.2	48.5	1
93-65-2	MCPD	U	16.2	ug/L	16.2	48.5	1

Herbicide
Certificate of Analysis
Sample Summary

Page 1 of 1

SDG Number: GEL392828	Date Collected: 03/08/2016 08:32	Matrix: WATER
Lab Sample ID: 392828007	Date Received: 03/09/2016 10:20	
Client ID: B34B79	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1551985	Method: SW846 8151A	SOP Ref: GL-OA-E-011
Run Date: 03/17/2016 19:26	Inst: ECD3A.I	Dilution: 1
Prep Date: 03/15/2016 05:25	Analyst: LOF	Inj. Vol: 1 uL
Data File: 031716\E3c1720.D	Aliquot: 1040 mL	Final Volume: 10 mL
	Column: 1 RTX-CLPEST 1	
	2 RTX-CLPEST 2	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
93-76-5	2,4,5-T	U	0.0801	ug/L	0.0801	0.240	1
93-72-1	2,4,5-TP	U	0.0801	ug/L	0.0801	0.240	1
94-75-7	2,4-D	U	0.0801	ug/L	0.0801	0.240	1
94-82-6	2,4-DB	U	0.0887	ug/L	0.0887	0.240	1
75-99-0	Dalapon	U	1.60	ug/L	1.60	4.81	1
1918-00-9	Dicamba	U	0.0801	ug/L	0.0801	0.240	1
120-36-5	Dichlorprop	U	0.0801	ug/L	0.0801	0.240	1
88-85-7	Dinoseb	U	0.0801	ug/L	0.0801	0.240	1
94-74-6	MCPA	U	16.0	ug/L	16.0	48.1	1
93-65-2	MCPA	U	16.0	ug/L	16.0	48.1	1

**Herbicide
 Certificate of Analysis
 Sample Summary**

SDG Number: GEL392828	Date Collected: 03/08/2016 08:32	Matrix: WATER
Lab Sample ID: 392828010	Date Received: 03/09/2016 10:20	
Client ID: B34B80	Client: CPRC001	Project: CPRC0W16003
Batch ID: 1551985	Method: SW846 8151A	SOP Ref: GL-OA-E-011
Run Date: 03/17/2016 19:46	Inst: ECD3A.I	Dilution: 1
Prep Date: 03/15/2016 05:25	Analyst: LOF	Inj. Vol: 1 uL
Data File: 031716\E3c1721.D	Aliquot: 1030 mL	Final Volume: 10 mL
031716\E3c1721.D	Column: 1 RTX-CLPEST 1	
	2 RTX-CLPEST 2	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
93-76-5	2,4,5-T	U	0.0809	ug/L	0.0809	0.243	1
93-72-1	2,4,5-TP	U	0.0809	ug/L	0.0809	0.243	1
94-75-7	2,4-D	U	0.0809	ug/L	0.0809	0.243	1
94-82-6	2,4-DB	U	0.0896	ug/L	0.0896	0.243	1
75-99-0	Dalapon	U	1.62	ug/L	1.62	4.85	1
1918-00-9	Dicamba	U	0.0809	ug/L	0.0809	0.243	1
120-36-5	Dichlorprop	U	0.0809	ug/L	0.0809	0.243	1
88-85-7	Dinoseb	U	0.0809	ug/L	0.0809	0.243	1
94-74-6	MCPA	U	16.2	ug/L	16.2	48.5	1
93-65-2	MCPA	U	16.2	ug/L	16.2	48.5	1

Quality Control Summary

Herbicide

Surrogate Recovery Report

SDG Number: GEL392828

Matrix Type: LIQUID

Sample ID	Client ID	DCAA 1 %REC #	DCAA 2 %REC #
1203507717	MB for batch 1551981	84	94
1203507718	LCS for batch 1551981	81	95
1203507723	LCSD for batch 1551981	87	101
392828001	B34B45	86	100
1203507721	B34B45MS	97	114
1203507722	B34B45MSD	92	111
392828003	B34B46	90	107
392828005	B34B57	87	104
392828007	B34B79	88	105
392828010	B34B80	84	100

Surrogate

DCAA = 2,4-Dichlorophenylacetic acid

Acceptance Limits

(70%-130%)

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

GEL LABORATORIES LLC

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QC Summary

Report Date: March 21, 2016

Page 1 of 4

CH2M Hill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Contact: Mr. Scot Fitzgerald

Workorder: 392828

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-HERB											
Batch	1551985										
QC1203507718	LCS										
2,4,5-T	2.00			1.92	ug/L		96	(70%-130%)	LOF	03/17/16	17:09
2,4,5-TP	2.00			1.81	ug/L		91	(70%-130%)			
2,4-D	2.00			1.73	ug/L		86	(70%-130%)			
2,4-DB	2.00			1.92	ug/L		96	(70%-130%)			
Dalapon	20.0			14.2	ug/L		71	(70%-130%)			
Dicamba	2.00			1.69	ug/L		84	(70%-130%)			
Dichlorprop	2.00			1.68	ug/L		84	(70%-130%)			
Dinoseb	2.00			0.980	ug/L		49*	(70%-130%)			
MCPA	200			150	ug/L		75	(70%-130%)			
MCPP	200			147	ug/L		73	(70%-130%)			
*2,4-Dichlorophenylacetic acid	5.00			4.04	ug/L		81	(70%-130%)			
QC1203507723	LCSD										
2,4,5-T	2.00			2.09	ug/L	9	105	(0%-20%)		03/17/16	17:28
2,4,5-TP	2.00			1.98	ug/L	9	99	(0%-20%)			
2,4-D	2.00			1.88	ug/L	9	94	(0%-20%)			
2,4-DB	2.00			2.48	ug/L	25*	124	(0%-20%)			
Dalapon	20.0			14.9	ug/L	5	75	(0%-20%)			
Dicamba	2.00			1.82	ug/L	8	91	(0%-20%)			
Dichlorprop	2.00			1.83	ug/L	9	92	(0%-20%)			
Dinoseb	2.00			1.05	ug/L	7	53*	(0%-20%)			

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-HERB											
Batch	1551985										
MCPA	200			167	ug/L	11	83	(0%-20%)			
MCPP	200			163	ug/L	11	82	(0%-20%)	LOF	03/17/16	17:28
**2,4-Dichlorophenylacetic acid	5.00			4.34	ug/L		87	(70%-130%)			
QC1203507717 MB											
2,4,5-T			U	0.0833	ug/L					03/17/16	16:49
2,4,5-TP			U	0.0833	ug/L						
2,4-D			U	0.0833	ug/L						
2,4-DB			U	0.0923	ug/L						
Dalapon			U	1.67	ug/L						
Dicamba			U	0.0833	ug/L						
Dichlorprop			U	0.0833	ug/L						
Dinoseb			U	0.0833	ug/L						
MCPA			U	16.7	ug/L						
MCPP			U	16.7	ug/L						
**2,4-Dichlorophenylacetic acid	5.00			4.18	ug/L		84	(70%-130%)			
QC1203507721 392828001 MS											
2,4,5-T	1.96	U	0.0817	2.19	ug/L		112	(25%-143%)		03/17/16	18:07
2,4,5-TP	1.96	U	0.0817	2.08	ug/L		106	(34%-141%)			
2,4-D	1.96	U	0.0817	1.98	ug/L		101	(43%-138%)			
2,4-DB	1.96	U	0.0905	2.20	ug/L		112	(29%-154%)			
Dalapon	19.6	U	1.63	16.1	ug/L		82	(26%-129%)			
Dicamba	1.96	U	0.0817	1.94	ug/L		99	(35%-138%)			
Dichlorprop	1.96	U	0.0817	1.94	ug/L		99	(37%-144%)			
Dinoseb	1.96	U	0.0817	1.16	ug/L		59	(19%-107%)			

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-HERB											
Batch	1551985										
MCPA	196	U	16.3	179	ug/L		91	(25%-140%)	LOF	03/17/16	18:07
MCPP	196	U	16.3	178	ug/L		91	(23%-143%)			
*2,4-Dichlorophenylacetic acid	4.90		4.20	4.74	ug/L		97	(70%-130%)			
QC1203507722 392828001 MSD											
2,4,5-T	1.96	U	0.0817	2.17	ug/L	1	111	(0%-20%)		03/17/16	18:27
2,4,5-TP	1.96	U	0.0817	2.02	ug/L	3	103	(0%-20%)			
2,4-D	1.96	U	0.0817	1.94	ug/L	2	99	(0%-20%)			
2,4-DB	1.96	U	0.0905	2.42	ug/L	10	124	(0%-20%)			
Dalapon	19.6	U	1.63	15.4	ug/L	5	78	(0%-20%)			
Dicamba	1.96	U	0.0817	1.88	ug/L	3	96	(0%-20%)			
Dichlorprop	1.96	U	0.0817	1.90	ug/L	2	97	(0%-20%)			
Dinoseb	1.96	U	0.0817	1.14	ug/L	2	58	(0%-20%)			
MCPA	196	U	16.3	173	ug/L	3	88	(0%-20%)			
MCPP	196	U	16.3	169	ug/L	5	86	(0%-20%)			
*2,4-Dichlorophenylacetic acid	4.90		4.20	4.52	ug/L		92	(70%-130%)			

Notes:

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated
- N Spike Sample recovery is outside control limits.

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
P	Aroclor target analyte with greater than 25% difference between column analyses.										
T	Spike and/or spike duplicate sample recovery is outside control limits.										
U	Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.										
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Y	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Z	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
o	Analyte failed to recover within LCS limits (Organics only)										

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Metals Analysis

Case Narrative

Metals
Technical Case Narrative
CH2MHill Plateau Remediation Company (CPRC)
SDG #: GEL392828
Work Order #: 392828

Product: Determination of Metals by ICP**Analytical Method:** 6010_METALS_ICP**Analytical Procedure:** GL-MA-E-013 REV# 25**Analytical Batch:** 1550938**Product: Determination of Metals by ICP-MS****Analytical Method:** 6020_METALS_ICPMS**Analytical Procedure:** GL-MA-E-014 REV# 27**Analytical Batch:** 1550954**Product: Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer****Analytical Method:** 7470_HG_CVAA**Analytical Procedure:** GL-MA-E-010 REV# 31**Analytical Batch:** 1555321**Preparation Method:** SW846 3005A**Preparation Procedure:** GL-MA-E-006 REV# 13**Preparation Batches:** 1550937 and 1550953**Preparation Method:** SW846 7470A Prep**Preparation Procedure:** GL-MA-E-010 REV# 31**Preparation Batch:** 1555319

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
392828001	B34B45
392828002	B34TF2
392828003	B34B46
392828004	B34TF3
392828005	B34B57
392828006	B34TF5
392828007	B34B79
392828008	B34TH0
392828009	B34TH1
392828010	B34B80
1203504832	Method Blank (MB) ICP
1203504833	Laboratory Control Sample (LCS)
1203504836	392828001(B34B45L) Serial Dilution (SD)
1203504834	392828001(B34B45S) Matrix Spike (MS)
1203504835	392828001(B34B45SD) Matrix Spike Duplicate (MSD)
1203504865	Method Blank (MB) ICP-MS
1203504866	Laboratory Control Sample (LCS)
1203504869	392828001(B34B45L) Serial Dilution (SD)
1203504867	392828001(B34B45S) Matrix Spike (MS)
1203504868	392828001(B34B45SD) Matrix Spike Duplicate (MSD)

1203516317	Method Blank (MB)CVAA
1203516318	Laboratory Control Sample (LCS)
1203516321	392828001(B34B45L) Serial Dilution (SD)
1203516319	392828001(B34B45D) Sample Duplicate (DUP)
1203516320	392828001(B34B45S) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Method Blank (MB) Statement

The method blanks (MB) analyzed with this SDG met the exception criteria with the exception of antimony, arsenic and chromium. In instances where there were positive hits in the method blank, the results were evaluated and appropriately flagged on the data. ICP-MS.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

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**Qualifier Definition Report
for**

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL392828 GEL Work Order: 392828

The Qualifiers in this report are defined as follows:

- * Duplicate analysis not within control limits
- B The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).
- C Target analyte was detected in the sample and the associated blank. The associated blank concentration is \geq EQL or is $> 5\%$ of the measured concentration and/or decision level for associated samples.
- D Results are reported from a diluted aliquot of sample.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: Nik-Cole Elmore

Date: 04 APR 2016

Title: Data Validator

Sample Data Summary

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL392828

CONTRACT: CPRCOW16003

METHOD TYPE: SW846

SAMPLE ID:392828001

BASIS: As Received

DATE COLLECTED 08-MAR-16

CLIENT ID: B34B45

LEVEL: Low

DATE RECEIVED 09-MAR-16

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	15	ug/L	U	15	50	50	1	MS	SKJ	03/21/16 13:20	160321-6	1550954
7440-36-0	Antimony	1	ug/L	U	1	3	3	1	MS	PRB	03/21/16 10:53	160321-2	1550954
7440-38-2	Arsenic	1.7	ug/L	U	1.7	5	5	1	MS	PRB	03/21/16 10:53	160321-2	1550954
7440-39-3	Barium	0.60	ug/L	U	0.6	2	2	1	MS	PRB	03/21/16 10:53	160321-2	1550954
7440-41-7	Beryllium	0.20	ug/L	U	0.2	0.5	0.5	1	MS	SKJ	03/21/16 13:20	160321-6	1550954
7440-42-8	Boron	15	ug/L	U	15	50	50	1	P	TXT1	03/22/16 11:19	032216-1	1550938
7440-43-9	Cadmium	0.110	ug/L	U	0.11	1	1	1	MS	PRB	03/21/16 10:53	160321-2	1550954
7440-70-2	Calcium	50	ug/L	U	50	200	200	1	P	TXT1	03/22/16 11:19	032216-1	1550938
7440-47-3	Chromium	2	ug/L	U	2	10	10	1	MS	SKJ	03/21/16 13:20	160321-6	1550954
7440-48-4	Cobalt	0.10	ug/L	U	0.1	1	1	1	MS	SKJ	03/21/16 13:20	160321-6	1550954
7440-50-8	Copper	0.350	ug/L	U	0.35	1	1	1	MS	SKJ	03/21/16 13:20	160321-6	1550954
7439-89-6	Iron	30	ug/L	U	30	100	100	1	P	TXT1	03/22/16 11:19	032216-1	1550938
7439-92-1	Lead	0.50	ug/L	U	0.5	2	2	1	MS	PRB	03/21/16 10:53	160321-2	1550954
7439-95-4	Magnesium	110	ug/L	U	110	300	300	1	P	TXT1	03/22/16 11:19	032216-1	1550938
7439-96-5	Manganese	1	ug/L	U	1	5	5	1	MS	SKJ	03/21/16 13:20	160321-6	1550954
7439-97-6	Mercury	0.067	ug/L	U	0.067	0.2	0.2	1	AV	MTM1	03/29/16 10:29	032916W1-7	1555321
7439-98-7	Molybdenum	0.165	ug/L	U	0.165	0.5	0.5	1	MS	PRB	03/21/16 10:53	160321-2	1550954
7440-02-0	Nickel	0.50	ug/L	U	0.5	2	2	1	MS	SKJ	03/21/16 13:20	160321-6	1550954
7440-09-7	Potassium	50	ug/L	U	50	150	150	1	P	TXT1	03/22/16 11:19	032216-1	1550938
7782-49-2	Selenium	1.5	ug/L	U	1.5	5	5	1	MS	SKJ	03/21/16 13:20	160321-6	1550954
7440-22-4	Silver	0.20	ug/L	U	0.2	1	1	1	MS	PRB	03/21/16 10:53	160321-2	1550954
7440-23-5	Sodium	100	ug/L	U	100	300	300	1	P	TXT1	03/22/16 11:19	032216-1	1550938
7440-24-6	Strontium	2	ug/L	U	2	10	10	1	MS	PRB	03/21/16 10:53	160321-2	1550954
7440-28-0	Thallium	0.450	ug/L	U	0.45	2	2	1	MS	PRB	03/21/16 10:53	160321-2	1550954
7440-29-1	Thorium	0.383	ug/L	U	0.383	2	2	1	MS	PRB	03/21/16 15:35	160321-5	1550954
7440-31-5	Tin	1	ug/L	U	1	5	5	1	MS	PRB	03/21/16 10:53	160321-2	1550954
7440-61-1	Uranium	0.067	ug/L	U	0.067	0.2	0.2	1	MS	PRB	03/21/16 15:35	160321-5	1550954
7440-62-2	Vanadium	1	ug/L	U	1	5	5	1	P	TXT1	03/22/16 11:19	032216-1	1550938
7440-66-6	Zinc	3.5	ug/L	U	3.5	10	10	1	MS	SKJ	03/21/16 13:20	160321-6	1550954

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1550938	1550937	SW846 3005A	50	mL	50	mL	03/11/16	JP1
1550954	1550953	SW846 3005A	50	mL	50	mL	03/11/16	JP1

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

1555321	1555319	SW846 7470A Prep	20	mL	20	mL	03/28/16	AXS5
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*Analytical Methods:

- P SW846 3005A/6010C
- MS SW846 3005A/6020A
- AV SW846 7470A

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL392828

CONTRACT: CPRCOW16003

METHOD TYPE: SW846

SAMPLE ID:392828002

BASIS: As Received

DATE COLLECTED 08-MAR-16

CLIENT ID: B34TF2

LEVEL: Low

DATE RECEIVED 09-MAR-16

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	15	ug/L	U	15	50	50	1	MS	SKJ	03/21/16 13:39	160321-6	1550954
7440-36-0	Antimony	1	ug/L	U	1	3	3	1	MS	PRB	03/21/16 11:18	160321-2	1550954
7440-38-2	Arsenic	1.87	ug/L	CB	1.7	5	5	1	MS	PRB	03/21/16 11:18	160321-2	1550954
7440-39-3	Barium	0.60	ug/L	U	0.6	2	2	1	MS	PRB	03/21/16 11:18	160321-2	1550954
7440-41-7	Beryllium	0.20	ug/L	U	0.2	0.5	0.5	1	MS	SKJ	03/21/16 13:39	160321-6	1550954
7440-42-8	Boron	15	ug/L	U	15	50	50	1	P	TXT1	03/22/16 11:33	032216-1	1550938
7440-43-9	Cadmium	0.110	ug/L	U	0.11	1	1	1	MS	PRB	03/21/16 11:18	160321-2	1550954
7440-70-2	Calcium	50	ug/L	U	50	200	200	1	P	TXT1	03/22/16 11:33	032216-1	1550938
7440-47-3	Chromium	2.85	ug/L	CB	2	10	10	1	MS	SKJ	03/21/16 13:39	160321-6	1550954
7440-48-4	Cobalt	0.10	ug/L	U	0.1	1	1	1	MS	SKJ	03/21/16 13:39	160321-6	1550954
7440-50-8	Copper	0.350	ug/L	U	0.35	1	1	1	MS	SKJ	03/21/16 13:39	160321-6	1550954
7439-89-6	Iron	30	ug/L	U	30	100	100	1	P	TXT1	03/22/16 11:33	032216-1	1550938
7439-92-1	Lead	0.50	ug/L	U	0.5	2	2	1	MS	PRB	03/21/16 11:18	160321-2	1550954
7439-95-4	Magnesium	110	ug/L	U	110	300	300	1	P	TXT1	03/22/16 11:33	032216-1	1550938
7439-96-5	Manganese	1	ug/L	U	1	5	5	1	MS	SKJ	03/21/16 13:39	160321-6	1550954
7439-97-6	Mercury	0.067	ug/L	U	0.067	0.2	0.2	1	AV	MTM1	03/29/16 10:37	032916W1-7	1555321
7439-98-7	Molybdenum	0.165	ug/L	U	0.165	0.5	0.5	1	MS	PRB	03/21/16 11:18	160321-2	1550954
7440-02-0	Nickel	0.50	ug/L	U	0.5	2	2	1	MS	SKJ	03/21/16 13:39	160321-6	1550954
7440-09-7	Potassium	50	ug/L	U	50	150	150	1	P	TXT1	03/22/16 11:33	032216-1	1550938
7782-49-2	Selenium	1.5	ug/L	U	1.5	5	5	1	MS	SKJ	03/21/16 13:39	160321-6	1550954
7440-22-4	Silver	0.20	ug/L	U	0.2	1	1	1	MS	PRB	03/21/16 11:18	160321-2	1550954
7440-23-5	Sodium	100	ug/L	U	100	300	300	1	P	TXT1	03/22/16 11:33	032216-1	1550938
7440-24-6	Strontium	2	ug/L	U	2	10	10	1	MS	PRB	03/21/16 11:18	160321-2	1550954
7440-28-0	Thallium	0.450	ug/L	U	0.45	2	2	1	MS	PRB	03/21/16 11:18	160321-2	1550954
7440-29-1	Thorium	0.383	ug/L	U	0.383	2	2	1	MS	PRB	03/21/16 15:48	160321-5	1550954
7440-31-5	Tin	1	ug/L	U	1	5	5	1	MS	PRB	03/21/16 11:18	160321-2	1550954
7440-61-1	Uranium	0.067	ug/L	U	0.067	0.2	0.2	1	MS	PRB	03/21/16 15:48	160321-5	1550954
7440-62-2	Vanadium	1	ug/L	U	1	5	5	1	P	TXT1	03/22/16 11:33	032216-1	1550938
7440-66-6	Zinc	3.5	ug/L	U	3.5	10	10	1	MS	SKJ	03/21/16 13:39	160321-6	1550954

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1550938	1550937	SW846 3005A	50	mL	50	mL	03/11/16	JP1
1550954	1550953	SW846 3005A	50	mL	50	mL	03/11/16	JP1

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

1555321	1555319	SW846 7470A Prep	20	mL	20	mL	03/28/16	AXS5
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*Analytical Methods:

- P SW846 3005A/6010C
- MS SW846 3005A/6020A
- AV SW846 7470A

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL392828

CONTRACT: CPRCOW16003

METHOD TYPE: SW846

SAMPLE ID:392828003

BASIS: As Received

DATE COLLECTED 08-MAR-16

CLIENT ID: B34B46

LEVEL: Low

DATE RECEIVED 09-MAR-16

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	15	ug/L	U	15	50	50	1	MS	SKJ	03/21/16 13:42	160321-6	1550954
7440-36-0	Antimony	1	ug/L	U	1	3	3	1	MS	PRB	03/21/16 11:21	160321-2	1550954
7440-38-2	Arsenic	8.3	ug/L	C	1.7	5	5	1	MS	PRB	03/21/16 11:21	160321-2	1550954
7440-39-3	Barium	47	ug/L		0.6	2	2	1	MS	PRB	03/21/16 11:21	160321-2	1550954
7440-41-7	Beryllium	0.20	ug/L	U	0.2	0.5	0.5	1	MS	SKJ	03/21/16 13:42	160321-6	1550954
7440-42-8	Boron	15	ug/L	U	15	50	50	1	P	TXT1	03/22/16 11:36	032216-1	1550938
7440-43-9	Cadmium	0.110	ug/L	U	0.11	1	1	1	MS	PRB	03/21/16 11:21	160321-2	1550954
7440-70-2	Calcium	59100	ug/L		50	200	200	1	P	TXT1	03/22/16 11:36	032216-1	1550938
7440-47-3	Chromium	4.21	ug/L	CB	2	10	10	1	MS	SKJ	03/21/16 13:42	160321-6	1550954
7440-48-4	Cobalt	0.130	ug/L	B	0.1	1	1	1	MS	SKJ	03/21/16 13:42	160321-6	1550954
7440-50-8	Copper	0.639	ug/L	B	0.35	1	1	1	MS	SKJ	03/21/16 13:42	160321-6	1550954
7439-89-6	Iron	30	ug/L	U	30	100	100	1	P	TXT1	03/22/16 11:36	032216-1	1550938
7439-92-1	Lead	0.50	ug/L	U	0.5	2	2	1	MS	PRB	03/21/16 11:21	160321-2	1550954
7439-95-4	Magnesium	16900	ug/L		110	300	300	1	P	TXT1	03/22/16 11:36	032216-1	1550938
7439-96-5	Manganese	1	ug/L	U	1	5	5	1	MS	SKJ	03/21/16 13:42	160321-6	1550954
7439-97-6	Mercury	0.067	ug/L	U	0.067	0.2	0.2	1	AV	MTM1	03/29/16 10:39	032916W1-7	1555321
7439-98-7	Molybdenum	2.52	ug/L		0.165	0.5	0.5	1	MS	PRB	03/21/16 11:21	160321-2	1550954
7440-02-0	Nickel	1.66	ug/L	B	0.5	2	2	1	MS	SKJ	03/21/16 13:42	160321-6	1550954
7440-09-7	Potassium	7230	ug/L		50	150	150	1	P	TXT1	03/22/16 11:36	032216-1	1550938
7782-49-2	Selenium	9.52	ug/L		1.5	5	5	1	MS	SKJ	03/21/16 13:42	160321-6	1550954
7440-22-4	Silver	0.20	ug/L	U	0.2	1	1	1	MS	PRB	03/21/16 11:21	160321-2	1550954
7440-23-5	Sodium	26800	ug/L		100	300	300	1	P	TXT1	03/22/16 11:36	032216-1	1550938
7440-24-6	Strontium	301	ug/L		2	10	10	1	MS	PRB	03/21/16 11:21	160321-2	1550954
7440-28-0	Thallium	0.450	ug/L	U	0.45	2	2	1	MS	PRB	03/21/16 11:21	160321-2	1550954
7440-29-1	Thorium	0.383	ug/L	U	0.383	2	2	1	MS	PRB	03/21/16 15:50	160321-5	1550954
7440-31-5	Tin	1	ug/L	U	1	5	5	1	MS	PRB	03/21/16 11:21	160321-2	1550954
7440-61-1	Uranium	3.17	ug/L		0.067	0.2	0.2	1	MS	PRB	03/21/16 15:50	160321-5	1550954
7440-62-2	Vanadium	20.1	ug/L		1	5	5	1	P	TXT1	03/22/16 11:36	032216-1	1550938
7440-66-6	Zinc	3.5	ug/L	U	3.5	10	10	1	MS	SKJ	03/21/16 13:42	160321-6	1550954

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1550938	1550937	SW846 3005A	50	mL	50	mL	03/11/16	JP1
1550954	1550953	SW846 3005A	50	mL	50	mL	03/11/16	JP1

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

1555321	1555319	SW846 7470A Prep	20	mL	20	mL	03/28/16	AXS5
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*Analytical Methods:

- P SW846 3005A/6010C
- MS SW846 3005A/6020A
- AV SW846 7470A

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL392828

CONTRACT: CPRCOW16003

METHOD TYPE: SW846

SAMPLE ID:392828004

BASIS: As Received

DATE COLLECTED 08-MAR-16

CLIENT ID: B34TF3

LEVEL: Low

DATE RECEIVED 09-MAR-16

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	15	ug/L	U	15	50	50	1	MS	SKJ	03/21/16 13:44	160321-6	1550954
7440-36-0	Antimony	1	ug/L	U	1	3	3	1	MS	PRB	03/21/16 11:24	160321-2	1550954
7440-38-2	Arsenic	8.18	ug/L	C	1.7	5	5	1	MS	PRB	03/21/16 11:24	160321-2	1550954
7440-39-3	Barium	44.8	ug/L		0.6	2	2	1	MS	PRB	03/21/16 11:24	160321-2	1550954
7440-41-7	Beryllium	0.20	ug/L	U	0.2	0.5	0.5	1	MS	SKJ	03/21/16 13:44	160321-6	1550954
7440-42-8	Boron	15	ug/L	U	15	50	50	1	P	TXT1	03/22/16 11:39	032216-1	1550938
7440-43-9	Cadmium	0.110	ug/L	U	0.11	1	1	1	MS	PRB	03/21/16 11:24	160321-2	1550954
7440-70-2	Calcium	59100	ug/L		50	200	200	1	P	TXT1	03/22/16 11:39	032216-1	1550938
7440-47-3	Chromium	5.12	ug/L	CB	2	10	10	1	MS	SKJ	03/21/16 13:44	160321-6	1550954
7440-48-4	Cobalt	0.163	ug/L	B	0.1	1	1	1	MS	SKJ	03/21/16 13:44	160321-6	1550954
7440-50-8	Copper	0.628	ug/L	B	0.35	1	1	1	MS	SKJ	03/21/16 13:44	160321-6	1550954
7439-89-6	Iron	30	ug/L	U	30	100	100	1	P	TXT1	03/22/16 11:39	032216-1	1550938
7439-92-1	Lead	0.50	ug/L	U	0.5	2	2	1	MS	PRB	03/21/16 11:24	160321-2	1550954
7439-95-4	Magnesium	16900	ug/L		110	300	300	1	P	TXT1	03/22/16 11:39	032216-1	1550938
7439-96-5	Manganese	1	ug/L	U	1	5	5	1	MS	SKJ	03/21/16 13:44	160321-6	1550954
7439-97-6	Mercury	0.067	ug/L	U	0.067	0.2	0.2	1	AV	MTM1	03/29/16 10:40	032916W1-7	1555321
7439-98-7	Molybdenum	2.49	ug/L		0.165	0.5	0.5	1	MS	PRB	03/21/16 11:24	160321-2	1550954
7440-02-0	Nickel	1.57	ug/L	B	0.5	2	2	1	MS	SKJ	03/21/16 13:44	160321-6	1550954
7440-09-7	Potassium	7290	ug/L		50	150	150	1	P	TXT1	03/22/16 11:39	032216-1	1550938
7782-49-2	Selenium	7.98	ug/L		1.5	5	5	1	MS	SKJ	03/21/16 13:44	160321-6	1550954
7440-22-4	Silver	0.20	ug/L	U	0.2	1	1	1	MS	PRB	03/21/16 11:24	160321-2	1550954
7440-23-5	Sodium	26900	ug/L		100	300	300	1	P	TXT1	03/22/16 11:39	032216-1	1550938
7440-24-6	Strontium	298	ug/L		2	10	10	1	MS	PRB	03/21/16 11:24	160321-2	1550954
7440-28-0	Thallium	0.450	ug/L	U	0.45	2	2	1	MS	PRB	03/21/16 11:24	160321-2	1550954
7440-29-1	Thorium	0.383	ug/L	U	0.383	2	2	1	MS	PRB	03/21/16 15:51	160321-5	1550954
7440-31-5	Tin	1	ug/L	U	1	5	5	1	MS	PRB	03/21/16 11:24	160321-2	1550954
7440-61-1	Uranium	3.1	ug/L		0.067	0.2	0.2	1	MS	PRB	03/21/16 15:51	160321-5	1550954
7440-62-2	Vanadium	20.1	ug/L		1	5	5	1	P	TXT1	03/22/16 11:39	032216-1	1550938
7440-66-6	Zinc	3.5	ug/L	U	3.5	10	10	1	MS	SKJ	03/21/16 13:44	160321-6	1550954

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1550938	1550937	SW846 3005A	50	mL	50	mL	03/11/16	JP1
1550954	1550953	SW846 3005A	50	mL	50	mL	03/11/16	JP1

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

1555321	1555319	SW846 7470A Prep	20	mL	20	mL	03/28/16	AXS5
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***Analytical Methods:**

P SW846 3005A/6010C
MS SW846 3005A/6020A
AV SW846 7470A

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL392828

CONTRACT: CPRCOW16003

METHOD TYPE: SW846

SAMPLE ID:392828005

BASIS: As Received

DATE COLLECTED 08-MAR-16

CLIENT ID: B34B57

LEVEL: Low

DATE RECEIVED 09-MAR-16

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	15	ug/L	U	15	50	50	1	MS	SKJ	03/21/16 13:46	160321-6	1550954
7440-36-0	Antimony	1	ug/L	U	1	3	3	1	MS	PRB	03/21/16 11:27	160321-2	1550954
7440-38-2	Arsenic	7.07	ug/L	C	1.7	5	5	1	MS	PRB	03/21/16 11:27	160321-2	1550954
7440-39-3	Barium	58.4	ug/L		0.6	2	2	1	MS	PRB	03/21/16 11:27	160321-2	1550954
7440-41-7	Beryllium	0.20	ug/L	U	0.2	0.5	0.5	1	MS	SKJ	03/21/16 13:46	160321-6	1550954
7440-42-8	Boron	15	ug/L	U	15	50	50	1	P	TXT1	03/22/16 11:42	032216-1	1550938
7440-43-9	Cadmium	0.110	ug/L	U	0.11	1	1	1	MS	PRB	03/21/16 11:27	160321-2	1550954
7440-70-2	Calcium	76400	ug/L		50	200	200	1	P	TXT1	03/22/16 11:42	032216-1	1550938
7440-47-3	Chromium	7.78	ug/L	CB	2	10	10	1	MS	SKJ	03/21/16 13:46	160321-6	1550954
7440-48-4	Cobalt	0.180	ug/L	B	0.1	1	1	1	MS	SKJ	03/21/16 13:46	160321-6	1550954
7440-50-8	Copper	0.868	ug/L	B	0.35	1	1	1	MS	SKJ	03/21/16 13:46	160321-6	1550954
7439-89-6	Iron	67.5	ug/L	B	30	100	100	1	P	TXT1	03/22/16 11:42	032216-1	1550938
7439-92-1	Lead	0.50	ug/L	U	0.5	2	2	1	MS	PRB	03/21/16 11:27	160321-2	1550954
7439-95-4	Magnesium	20900	ug/L		110	300	300	1	P	TXT1	03/22/16 11:42	032216-1	1550938
7439-96-5	Manganese	5.24	ug/L		1	5	5	1	MS	SKJ	03/21/16 13:46	160321-6	1550954
7439-97-6	Mercury	0.067	ug/L	U	0.067	0.2	0.2	1	AV	MTM1	03/29/16 10:45	032916W1-7	1555321
7439-98-7	Molybdenum	2.27	ug/L		0.165	0.5	0.5	1	MS	PRB	03/21/16 11:27	160321-2	1550954
7440-02-0	Nickel	4.3	ug/L		0.5	2	2	1	MS	SKJ	03/21/16 13:46	160321-6	1550954
7440-09-7	Potassium	7660	ug/L		50	150	150	1	P	TXT1	03/22/16 11:42	032216-1	1550938
7782-49-2	Selenium	7.64	ug/L		1.5	5	5	1	MS	SKJ	03/21/16 13:46	160321-6	1550954
7440-22-4	Silver	0.20	ug/L	U	0.2	1	1	1	MS	PRB	03/21/16 11:27	160321-2	1550954
7440-23-5	Sodium	17900	ug/L		100	300	300	1	P	TXT1	03/22/16 11:42	032216-1	1550938
7440-24-6	Strontium	410	ug/L		2	10	10	1	MS	PRB	03/21/16 11:27	160321-2	1550954
7440-28-0	Thallium	0.450	ug/L	U	0.45	2	2	1	MS	PRB	03/21/16 11:27	160321-2	1550954
7440-29-1	Thorium	0.383	ug/L	U	0.383	2	2	1	MS	PRB	03/21/16 15:53	160321-5	1550954
7440-31-5	Tin	1	ug/L	U	1	5	5	1	MS	PRB	03/21/16 11:27	160321-2	1550954
7440-61-1	Uranium	2.99	ug/L		0.067	0.2	0.2	1	MS	PRB	03/21/16 15:53	160321-5	1550954
7440-62-2	Vanadium	21.7	ug/L		1	5	5	1	P	TXT1	03/22/16 11:42	032216-1	1550938
7440-66-6	Zinc	3.5	ug/L	U	3.5	10	10	1	MS	SKJ	03/21/16 13:46	160321-6	1550954

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1550938	1550937	SW846 3005A	50	mL	50	mL	03/11/16	JP1
1550954	1550953	SW846 3005A	50	mL	50	mL	03/11/16	JP1

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

1555321	1555319	SW846 7470A Prep	20	mL	20	mL	03/28/16	AXS5
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*Analytical Methods:

P SW846 3005A/6010C
MS SW846 3005A/6020A
AV SW846 7470A

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL392828

CONTRACT: CPRCOW16003

METHOD TYPE: SW846

SAMPLE ID:392828006

BASIS: As Received

DATE COLLECTED 08-MAR-16

CLIENT ID: B34TF5

LEVEL: Low

DATE RECEIVED 09-MAR-16

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	15	ug/L	U	15	50	50	1	MS	SKJ	03/21/16 13:49	160321-6	1550954
7440-36-0	Antimony	1	ug/L	U	1	3	3	1	MS	PRB	03/21/16 11:31	160321-2	1550954
7440-38-2	Arsenic	6.85	ug/L	C	1.7	5	5	1	MS	PRB	03/21/16 11:31	160321-2	1550954
7440-39-3	Barium	56.2	ug/L		0.6	2	2	1	MS	PRB	03/21/16 11:31	160321-2	1550954
7440-41-7	Beryllium	0.20	ug/L	U	0.2	0.5	0.5	1	MS	SKJ	03/21/16 13:49	160321-6	1550954
7440-42-8	Boron	15	ug/L	U	15	50	50	1	P	TXT1	03/22/16 11:44	032216-1	1550938
7440-43-9	Cadmium	0.110	ug/L	U	0.11	1	1	1	MS	PRB	03/21/16 11:31	160321-2	1550954
7440-70-2	Calcium	76400	ug/L		50	200	200	1	P	TXT1	03/22/16 11:44	032216-1	1550938
7440-47-3	Chromium	3.52	ug/L	CB	2	10	10	1	MS	SKJ	03/21/16 13:49	160321-6	1550954
7440-48-4	Cobalt	0.199	ug/L	B	0.1	1	1	1	MS	SKJ	03/21/16 13:49	160321-6	1550954
7440-50-8	Copper	0.801	ug/L	B	0.35	1	1	1	MS	SKJ	03/21/16 13:49	160321-6	1550954
7439-89-6	Iron	30	ug/L	U	30	100	100	1	P	TXT1	03/22/16 11:44	032216-1	1550938
7439-92-1	Lead	0.50	ug/L	U	0.5	2	2	1	MS	PRB	03/21/16 11:31	160321-2	1550954
7439-95-4	Magnesium	20900	ug/L		110	300	300	1	P	TXT1	03/22/16 11:44	032216-1	1550938
7439-96-5	Manganese	1.62	ug/L	B	1	5	5	1	MS	SKJ	03/21/16 13:49	160321-6	1550954
7439-97-6	Mercury	0.067	ug/L	U	0.067	0.2	0.2	1	AV	MTM1	03/29/16 10:47	032916W1-7	1555321
7439-98-7	Molybdenum	2.12	ug/L		0.165	0.5	0.5	1	MS	PRB	03/21/16 11:31	160321-2	1550954
7440-02-0	Nickel	3.6	ug/L		0.5	2	2	1	MS	SKJ	03/21/16 13:49	160321-6	1550954
7440-09-7	Potassium	7660	ug/L		50	150	150	1	P	TXT1	03/22/16 11:44	032216-1	1550938
7782-49-2	Selenium	7.44	ug/L		1.5	5	5	1	MS	SKJ	03/21/16 13:49	160321-6	1550954
7440-22-4	Silver	0.20	ug/L	U	0.2	1	1	1	MS	PRB	03/21/16 11:31	160321-2	1550954
7440-23-5	Sodium	18000	ug/L		100	300	300	1	P	TXT1	03/22/16 11:44	032216-1	1550938
7440-24-6	Strontium	408	ug/L		2	10	10	1	MS	PRB	03/21/16 11:31	160321-2	1550954
7440-28-0	Thallium	0.450	ug/L	U	0.45	2	2	1	MS	PRB	03/21/16 11:31	160321-2	1550954
7440-29-1	Thorium	0.383	ug/L	U	0.383	2	2	1	MS	PRB	03/21/16 15:55	160321-5	1550954
7440-31-5	Tin	1	ug/L	U	1	5	5	1	MS	PRB	03/21/16 11:31	160321-2	1550954
7440-61-1	Uranium	2.96	ug/L		0.067	0.2	0.2	1	MS	PRB	03/21/16 15:55	160321-5	1550954
7440-62-2	Vanadium	21.1	ug/L		1	5	5	1	P	TXT1	03/22/16 11:44	032216-1	1550938
7440-66-6	Zinc	3.5	ug/L	U	3.5	10	10	1	MS	SKJ	03/21/16 13:49	160321-6	1550954

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1550938	1550937	SW846 3005A	50	mL	50	mL	03/11/16	JP1
1550954	1550953	SW846 3005A	50	mL	50	mL	03/11/16	JP1

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

1555321	1555319	SW846 7470A Prep	20	mL	20	mL	03/28/16	AXS5
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*Analytical Methods:

P SW846 3005A/6010C
MS SW846 3005A/6020A
AV SW846 7470A

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL392828

CONTRACT: CPRC0W16003

METHOD TYPE: SW846

SAMPLE ID: 392828007

BASIS: As Received

DATE COLLECTED 08-MAR-16

CLIENT ID: B34B79

LEVEL: Low

DATE RECEIVED 09-MAR-16

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439-97-6	Mercury	0.067	ug/L	U	0.067	0.2	0.2	1	AV	MTMI	03/29/16 10:49	032916W1-7	1555321

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1555321	1555319	SW846 7470A Prep	20	mL	20	mL	03/28/16	AXS5

***Analytical Methods:**

AV SW846 7470A

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL392828

CONTRACT: CPRC0W16003

METHOD TYPE: SW846

SAMPLE ID:392828008

BASIS: As Received

DATE COLLECTED 08-MAR-16

CLIENT ID: B34TH0

LEVEL: Low

DATE RECEIVED 09-MAR-16

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439-97-6	Mercury	0.067	ug/L	U	0.067	0.2	0.2	1	AV	MTMI	03/29/16 10:50	032916W1-7	1555321

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1555321	1555319	SW846 7470A Prep	20	mL	20	mL	03/28/16	AXS5

***Analytical Methods:**

AV SW846 7470A

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL392828

CONTRACT: CPRC0W16003

METHOD TYPE: SW846

SAMPLE ID:392828009

BASIS: As Received

DATE COLLECTED 08-MAR-16

CLIENT ID: B34TH1

LEVEL: Low

DATE RECEIVED 09-MAR-16

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439-97-6	Mercury	0.067	ug/L	U	0.067	0.2	0.2	1	AV	MTMI	03/29/16 10:52	032916W1-7	1555321

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1555321	1555319	SW846 7470A Prep	20	mL	20	mL	03/28/16	AXS5

***Analytical Methods:**

AV SW846 7470A

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL392828

CONTRACT: CPRC0W16003

METHOD TYPE: SW846

SAMPLE ID:392828010

BASIS: As Received

DATE COLLECTED 08-MAR-16

CLIENT ID: B34B80

LEVEL: Low

DATE RECEIVED 09-MAR-16

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439-97-6	Mercury	0.067	ug/L	U	0.067	0.2	0.2	1	AV	MTMI	03/29/16 10:54	032916W1-7	1555321

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1555321	1555319	SW846 7470A Prep	20	mL	20	mL	03/28/16	AXS5

***Analytical Methods:**

AV SW846 7470A

Quality Control Summary

GEL LABORATORIES LLC

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QC Summary

Report Date: April 4, 2016

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CH2MHill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Contact: Mr. Scot Fitzgerald

Workorder: 392828

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS											
Batch	1550954										
QC1203504866	LCS										
Aluminum	2000			2010	ug/L		101	(80%-120%)	SKJ	03/21/16	13:18
Antimony	50.0			51.2	ug/L		102	(80%-120%)	PRB	03/21/16	10:50
Arsenic	50.0			52.1	ug/L		104	(80%-120%)			
Barium	50.0			51.0	ug/L		102	(80%-120%)			
Beryllium	50.0			52.3	ug/L		105	(80%-120%)	SKJ	03/21/16	13:18
Cadmium	50.0			51.2	ug/L		102	(80%-120%)	PRB	03/21/16	10:50
Chromium	50.0			54.3	ug/L		109	(80%-120%)	SKJ	03/21/16	13:18
Cobalt	50.0			52.9	ug/L		106	(80%-120%)			
Copper	50.0			54.8	ug/L		110	(80%-120%)			
Lead	50.0			43.1	ug/L		86.2	(80%-120%)	PRB	03/21/16	10:50
Manganese	50.0			52.4	ug/L		105	(80%-120%)	SKJ	03/21/16	13:18
Molybdenum	50.0			51.0	ug/L		102	(80%-120%)	PRB	03/21/16	10:50
Nickel	50.0			53.5	ug/L		107	(80%-120%)	SKJ	03/21/16	13:18
Selenium	50.0			52.3	ug/L		105	(80%-120%)			
Silver	50.0			53.6	ug/L		107	(80%-120%)	PRB	03/21/16	10:50
Strontium	50.0			50.0	ug/L		100	(80%-120%)			
Thallium	50.0			41.8	ug/L		83.6	(80%-120%)			
Thorium	50.0			50.7	ug/L		101	(80%-120%)		03/21/16	15:33
Tin	50.0			51.8	ug/L		104	(80%-120%)		03/21/16	10:50
Uranium	50.0			51.4	ug/L		103	(80%-120%)		03/21/16	15:33

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS											
Batch	1550954										
Zinc	50.0			52.4	ug/L		105	(80%-120%)	SKJ	03/21/16	13:18
QC1203504865	MB										
Aluminum			U	15.0	ug/L					03/21/16	13:16
Antimony			B	1.36	ug/L				PRB	03/21/16	10:46
Arsenic			B	2.34	ug/L						
Barium			U	0.600	ug/L						
Beryllium			U	0.200	ug/L				SKJ	03/21/16	13:16
Cadmium			U	0.110	ug/L				PRB	03/21/16	10:46
Chromium			B	2.11	ug/L				SKJ	03/21/16	13:16
Cobalt			U	0.100	ug/L						
Copper			U	0.350	ug/L						
Lead			U	0.500	ug/L				PRB	03/21/16	10:46
Manganese			U	1.00	ug/L				SKJ	03/21/16	13:16
Molybdenum			U	0.165	ug/L				PRB	03/21/16	10:46
Nickel			U	0.500	ug/L				SKJ	03/21/16	13:16
Selenium			U	1.50	ug/L						
Silver			U	0.200	ug/L				PRB	03/21/16	10:46
Strontium			U	2.00	ug/L						
Thallium			U	0.450	ug/L						
Thorium			U	0.383	ug/L					03/21/16	15:32
Tin			U	1.00	ug/L					03/21/16	10:46
Uranium			U	0.067	ug/L					03/21/16	15:32

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS											
Batch	1550954										
Zinc			U	3.50	ug/L				SKJ	03/21/16	13:16
QC1203504867 392828001 MS											
Aluminum	2000	U	15.0	2020	ug/L		101	(75%-125%)		03/21/16	13:23
Antimony	50.0	U	1.00	49.4	ug/L		97.4	(75%-125%)	PRB	03/21/16	10:56
Arsenic	50.0	U	1.70	52.7	ug/L		102	(75%-125%)			
Barium	50.0	U	0.600	50.3	ug/L		101	(75%-125%)			
Beryllium	50.0	U	0.200	51.7	ug/L		103	(75%-125%)	SKJ	03/21/16	13:23
Cadmium	50.0	U	0.110	49.2	ug/L		98.4	(75%-125%)	PRB	03/21/16	10:56
Chromium	50.0	U	2.00	54.2	ug/L		105	(75%-125%)	SKJ	03/21/16	13:23
Cobalt	50.0	U	0.100	52.9	ug/L		106	(75%-125%)			
Copper	50.0	U	0.350	54.6	ug/L		109	(75%-125%)			
Lead	50.0	U	0.500	42.3	ug/L		84.6	(75%-125%)	PRB	03/21/16	10:56
Manganese	50.0	U	1.00	52.2	ug/L		104	(75%-125%)	SKJ	03/21/16	13:23
Molybdenum	50.0	U	0.165	50.8	ug/L		101	(75%-125%)	PRB	03/21/16	10:56
Nickel	50.0	U	0.500	53.7	ug/L		107	(75%-125%)	SKJ	03/21/16	13:23
Selenium	50.0	U	1.50	50.6	ug/L		100	(75%-125%)			
Silver	50.0	U	0.200	50.5	ug/L		101	(75%-125%)	PRB	03/21/16	10:56
Strontium	50.0	U	2.00	49.0	ug/L		97.9	(75%-125%)			
Thallium	50.0	U	0.450	42.5	ug/L		84.7	(75%-125%)			
Thorium	50.0	U	0.383	50.3	ug/L		100	(75%-125%)		03/21/16	15:37
Tin	50.0	U	1.00	49.9	ug/L		99.4	(75%-125%)		03/21/16	10:56
Uranium	50.0	U	0.067	50.7	ug/L		101	(75%-125%)		03/21/16	15:37

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS											
Batch	1550954										
Zinc	50.0	U	3.50	51.9	ug/L		103	(75%-125%)	SKJ	03/21/16	13:23
QC1203504868 392828001 MSD											
Aluminum	2000	U	15.0	1970	ug/L	2.74	98.3	(0%-20%)		03/21/16	13:25
Antimony	50.0	U	1.00	49.2	ug/L	0.469	96.9	(0%-20%)	PRB	03/21/16	10:59
Arsenic	50.0	U	1.70	52.3	ug/L	0.777	101	(0%-20%)			
Barium	50.0	U	0.600	51.5	ug/L	2.41	103	(0%-20%)			
Beryllium	50.0	U	0.200	51.2	ug/L	0.922	102	(0%-20%)	SKJ	03/21/16	13:25
Cadmium	50.0	U	0.110	49.2	ug/L	0.12	98.5	(0%-20%)	PRB	03/21/16	10:59
Chromium	50.0	U	2.00	53.8	ug/L	0.626	104	(0%-20%)	SKJ	03/21/16	13:25
Cobalt	50.0	U	0.100	52.5	ug/L	0.721	105	(0%-20%)			
Copper	50.0	U	0.350	54.5	ug/L	0.227	109	(0%-20%)			
Lead	50.0	U	0.500	43.3	ug/L	2.34	86.6	(0%-20%)	PRB	03/21/16	10:59
Manganese	50.0	U	1.00	52.1	ug/L	0.123	104	(0%-20%)	SKJ	03/21/16	13:25
Molybdenum	50.0	U	0.165	50.5	ug/L	0.577	101	(0%-20%)	PRB	03/21/16	10:59
Nickel	50.0	U	0.500	53.0	ug/L	1.28	106	(0%-20%)	SKJ	03/21/16	13:25
Selenium	50.0	U	1.50	50.8	ug/L	0.328	101	(0%-20%)			
Silver	50.0	U	0.200	51.8	ug/L	2.59	104	(0%-20%)	PRB	03/21/16	10:59
Strontium	50.0	U	2.00	49.3	ug/L	0.612	98.5	(0%-20%)			
Thallium	50.0	U	0.450	41.7	ug/L	1.79	83.2	(0%-20%)			
Thorium	50.0	U	0.383	50.5	ug/L	0.548	101	(0%-20%)		03/21/16	15:39
Tin	50.0	U	1.00	50.7	ug/L	1.6	101	(0%-20%)		03/21/16	10:59
Uranium	50.0	U	0.067	49.9	ug/L	1.56	99.8	(0%-20%)		03/21/16	15:39

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS											
Batch	1550954										
Zinc	50.0	U	3.50		51.0	ug/L	1.89	101	(0%-20%)	SKJ	03/21/16 13:25
QC1203504869 392828001 SDILT											
Aluminum		U	2.65	DU	75.0	ug/L	N/A		(0%-10%)		03/21/16 13:30
Antimony		U	0.680	DU	5.00	ug/L	N/A		(0%-10%)	PRB	03/21/16 11:05
Arsenic		U	1.55	DU	8.50	ug/L	N/A		(0%-10%)		
Barium		U	0.052	DU	3.00	ug/L	N/A		(0%-10%)		
Beryllium		U	0.010	DU	1.00	ug/L	N/A		(0%-10%)	SKJ	03/21/16 13:30
Cadmium		U	0.006	DU	0.550	ug/L	N/A		(0%-10%)	PRB	03/21/16 11:05
Chromium		U	1.86	DU	10.0	ug/L	N/A		(0%-10%)	SKJ	03/21/16 13:30
Cobalt		U	0.011	DU	0.500	ug/L	N/A		(0%-10%)		
Copper		U	0.076	DU	1.75	ug/L	N/A		(0%-10%)		
Lead		U	0.033	DU	2.50	ug/L	N/A		(0%-10%)	PRB	03/21/16 11:05
Manganese		U	0.162	DU	5.00	ug/L	N/A		(0%-10%)	SKJ	03/21/16 13:30
Molybdenum		U	0.121	DU	0.825	ug/L	N/A		(0%-10%)	PRB	03/21/16 11:05
Nickel		U	0.159	DU	2.50	ug/L	N/A		(0%-10%)	SKJ	03/21/16 13:30
Selenium		U	0.369	DU	7.50	ug/L	N/A		(0%-10%)		
Silver		U	0.007	DU	1.00	ug/L	N/A		(0%-10%)	PRB	03/21/16 11:05
Strontium		U	0.071	DU	10.0	ug/L	N/A		(0%-10%)		
Thallium		U	0.091	D	0.562	ug/L	N/A		(0%-10%)		
Thorium		U	0.054	DU	1.92	ug/L	N/A		(0%-10%)		03/21/16 15:41
Tin		U	0.183	DU	5.00	ug/L	N/A		(0%-10%)		03/21/16 11:05
Uranium		U	0.003	DU	0.335	ug/L	N/A		(0%-10%)		03/21/16 15:41

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS											
Batch	1550954										
Zinc		U	0.671	DU	17.5	ug/L	N/A	(0%-10%)	SKJ	03/21/16	13:30
Metals Analysis-ICP											
Batch	1550938										
QC1203504833	LCS										
Boron	500				460	ug/L		92 (80%-120%)	TXT1	03/22/16	11:17
Calcium	5000				5120	ug/L		102 (80%-120%)			
Iron	5000				5020	ug/L		100 (80%-120%)			
Magnesium	5000				5070	ug/L		101 (80%-120%)			
Potassium	5000				4910	ug/L		98.3 (80%-120%)			
Sodium	5000				4960	ug/L		99.1 (80%-120%)			
Vanadium	500				491	ug/L		98.1 (80%-120%)			
QC1203504832	MB										
Boron			U		15.0	ug/L				03/22/16	11:14
Calcium			U		50.0	ug/L					
Iron			U		30.0	ug/L					
Magnesium			U		110	ug/L					
Potassium			U		50.0	ug/L					
Sodium			U		100	ug/L					
Vanadium			U		1.00	ug/L					
QC1203504834	392828001 MS										
Boron	500	U	15.0		465	ug/L		92.8 (75%-125%)		03/22/16	11:22
Calcium	5000	U	50.0		5190	ug/L		103 (75%-125%)			
Iron	5000	U	30.0		5100	ug/L		102 (75%-125%)			
Magnesium	5000	U	110		5110	ug/L		102 (75%-125%)			

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QC Summary

Workorder: 392828

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	1550938										
Potassium	5000	U	50.0	4960	ug/L		99.1	(75%-125%)			
Sodium	5000	U	100	5050	ug/L		100	(75%-125%)	TXT1	03/22/16	11:22
Vanadium	500	U	1.00	499	ug/L		99.6	(75%-125%)			
QC1203504835	392828001	MSD									
Boron	500	U	15.0	461	ug/L	0.983	91.9	(0%-20%)		03/22/16	11:24
Calcium	5000	U	50.0	5180	ug/L	0.15	103	(0%-20%)			
Iron	5000	U	30.0	5060	ug/L	0.795	101	(0%-20%)			
Magnesium	5000	U	110	5100	ug/L	0.161	102	(0%-20%)			
Potassium	5000	U	50.0	5050	ug/L	1.88	101	(0%-20%)			
Sodium	5000	U	100	5000	ug/L	0.962	99	(0%-20%)			
Vanadium	500	U	1.00	494	ug/L	0.931	98.7	(0%-20%)			
QC1203504836	392828001	SDILT									
Boron		U	1.27 DU	75.0	ug/L	N/A		(0%-10%)		03/22/16	11:26
Calcium		U	18.7 DU	250	ug/L	N/A		(0%-10%)			
Iron		U	6.44 DU	150	ug/L	N/A		(0%-10%)			
Magnesium		U	-1.38 DU	550	ug/L	N/A		(0%-10%)			
Potassium		U	3.28 DU	250	ug/L	N/A		(0%-10%)			
Sodium		U	46.6 DU	500	ug/L	N/A		(0%-10%)			
Vanadium		U	0.323 DU	5.00	ug/L	N/A		(0%-10%)			
Metals Analysis-Mercury											
Batch	1555321										
QC1203516319	392828001	DUP									
Mercury		U	0.067 U	0.067	ug/L	N/A			MTM1	03/29/16	10:30
QC1203516318	LCS										
Mercury	2.00			2.10	ug/L		105	(80%-120%)		03/29/16	10:27
QC1203516317	MB										

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-Mercury											
Batch	1555321										
Mercury			U	0.067	ug/L					03/29/16	10:25
QC1203516320	392828001	MS									
Mercury	2.00	U	0.067	2.08	ug/L		104	(75%-125%)	MTM1	03/29/16	10:32
QC1203516321	392828001	SDILT									
Mercury		U	-0.03	DU	0.335	ug/L	N/A	(0%-10%)		03/29/16	10:34

Notes:

The Qualifiers in this report are defined as follows:

- * Duplicate analysis not within control limits
- + Correlation coefficient for Method of Standard Additions (MSA) is < 0.995
- B The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).
- C Target analyte was detected in the sample and the associated blank. The associated blank concentration is >= EQL or is > 5% of the measured concentration and/or decision level for associated samples.
- D Results are reported from a diluted aliquot of sample.
- E Reported value is estimated due to interferences. See comment in narrative.
- M Duplicate precision not met.
- N Spike Sample recovery is outside control limits.
- S Reported value determined by the Method of Standard Additions (MSA)
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- W Post-digestion spike recovery for GFAA out of control limit. Sample absorbency < 50% of spike absorbency.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
 ^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
 * Indicates that a Quality Control parameter was not within specifications.
 For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

General Chem Analysis

Case Narrative

**General Chemistry
Technical Case Narrative
CH2MHill Plateau Remediation Company (CPRC)
SDG #: GEL392828
Work Order #: 392828**

Product: Cyanide, Total

Analytical Method: 9012_CYANIDE

Analytical Procedure: GL-GC-E-095 REV# 18

Analytical Batches: 1550961 and 1550960

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
392828001	B34B45
392828003	B34B46
392828005	B34B57
392828007	B34B79
392828010	B34B80
1203504878	Method Blank (MB)
1203504879	Laboratory Control Sample (LCS)
1203504880	392828001(B34B45) Sample Duplicate (DUP)
1203504881	392828001(B34B45) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: Alkalinity

Analytical Method: 2320_ALKALINITY

Analytical Procedure: GL-GC-E-033 REV# 12

Analytical Batch: 1550486

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
392828001	B34B45
392828003	B34B46
392828005	B34B57
392828007	B34B79
392828010	B34B80
1203503789	Method Blank (MB)
1203503790	Laboratory Control Sample (LCS)
1203503791	392621003(B34B88) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Method Blank (MB) Statement

The alkalinity method blank concentration exceeded the reporting limit. If applicable, the data is flagged accordingly.

Sample	Analyte	Value
1203503789 (MB)	Alkalinity, Total as CaCO ₃	1.04 * 10 > 0

Product: Sulfide, Total

Analytical Method: SW846 9030B/9034

Analytical Procedure: GL-GC-E-082 REV# 13

Analytical Batch: 1552181

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
392828001	B34B45
392828003	B34B46
392828005	B34B57
392828007	B34B79
392828010	B34B80
1203508113	Method Blank (MB)
1203508114	Laboratory Control Sample (LCS)
1203508115	Laboratory Control Sample Duplicate (LCSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

**Qualifier Definition Report
for**

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL392828 GEL Work Order: 392828

The Qualifiers in this report are defined as follows:

- B The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).
- C Target analyte was detected in the sample and the associated blank. The associated blank concentration is \geq EQL or is $> 5\%$ of the measured concentration and/or decision level for associated samples.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: Thomas Lewis

Date: 31 MAR 2016

Title: Data Validator

Sample Data Summary

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: March 31, 2016

Company : CH2MHill Plateau Remediation Company
 Address : MSIN R3-50 CHPRC
 PO Box 1600
 Richland, Washington 99352
 Contact: Mr. Scot Fitzgerald
 Project: CHPRC SAF W16-003

Client Sample ID: B34B45 Project: CPRCOW16003
 Sample ID: 392828001 Client ID: CPRC001
 Matrix: WATER
 Collect Date: 08-MAR-16 06:30
 Receive Date: 09-MAR-16
 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "As Received"											
Cyanide, Total	U	1.67	1.67	5.00	ug/L	1	AXH3	03/15/16	1017	1550961	1
Titration and Ion Analysis											
2320_ALKALINITY: COMMON (Alkalinity only) "As Received"											
Alkalinity, Total as CaCO3	U	725	725	1000	ug/L		AMB	03/09/16	1411	1550486	2
9034_SULFIDE: COMMON "As Received"											
SULFIDE	U	1000	1000	2500	ug/L		SXC5	03/15/16	1357	1552181	3

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010C Distillation	SW846 9010C Prep	AXH3	03/15/16	1003	1550960

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	9012_CYANIDE	
2	2320_ALKALINITY	
3	SW846 9030B/9034	

Notes:

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 31, 2016

Company : CH2MHill Plateau Remediation Company
 Address : MSIN R3-50 CHPRC
 PO Box 1600
 Richland, Washington 99352
 Contact: Mr. Scot Fitzgerald
 Project: CHPRC SAF W16-003

Client Sample ID: B34B46 Project: CPRCOW16003
 Sample ID: 392828003 Client ID: CPRC001
 Matrix: WATER
 Collect Date: 08-MAR-16 09:43
 Receive Date: 09-MAR-16
 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "As Received"											
Cyanide, Total	B	2.70	1.67	5.00	ug/L	1	AXH3	03/15/16	1020	1550961	1
Titration and Ion Analysis											
2320_ALKALINITY: COMMON (Alkalinity only) "As Received"											
Alkalinity, Total as CaCO3	C	93900	725	1000	ug/L		AMB	03/09/16	1412	1550486	2
9034_SULFIDE: COMMON "As Received"											
SULFIDE	B	1270	1000	2500	ug/L		SXC5	03/15/16	1358	1552181	3

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010C Distillation	SW846 9010C Prep	AXH3	03/15/16	1003	1550960

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	9012_CYANIDE	
2	2320_ALKALINITY	
3	SW846 9030B/9034	

Notes:

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 31, 2016

Company : CH2MHill Plateau Remediation Company
 Address : MSIN R3-50 CHPRC
 PO Box 1600
 Richland, Washington 99352
 Contact: Mr. Scot Fitzgerald
 Project: CHPRC SAF W16-003

Client Sample ID: B34B57 Project: CPRCOW16003
 Sample ID: 392828005 Client ID: CPRC001
 Matrix: WATER
 Collect Date: 08-MAR-16 12:15
 Receive Date: 09-MAR-16
 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "As Received"											
Cyanide, Total	U	1.67	1.67	5.00	ug/L	1	AXH3	03/15/16	1021	1550961	1
Titration and Ion Analysis											
2320_ALKALINITY: COMMON (Alkalinity only) "As Received"											
Alkalinity, Total as CaCO3	C	88700	725	1000	ug/L		AMB	03/09/16	1414	1550486	2
9034_SULFIDE: COMMON "As Received"											
SULFIDE	U	1000	1000	2500	ug/L		SXC5	03/15/16	1359	1552181	3

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010C Distillation	SW846 9010C Prep	AXH3	03/15/16	1003	1550960

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	9012_CYANIDE	
2	2320_ALKALINITY	
3	SW846 9030B/9034	

Notes:

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 31, 2016

Company : CH2MHill Plateau Remediation Company
 Address : MSIN R3-50 CHPRC
 PO Box 1600
 Richland, Washington 99352
 Contact: Mr. Scot Fitzgerald
 Project: CHPRC SAF W16-003

Client Sample ID: B34B79 Project: CPRCOW16003
 Sample ID: 392828007 Client ID: CPRC001
 Matrix: WATER
 Collect Date: 08-MAR-16 08:32
 Receive Date: 09-MAR-16
 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "As Received"											
Cyanide, Total	U	1.67	1.67	5.00	ug/L	1	AXH3	03/15/16	1022	1550961	1
Titration and Ion Analysis											
2320_ALKALINITY: COMMON (Alkalinity only) "As Received"											
Alkalinity, Total as CaCO3	C	84500	725	1000	ug/L		AMB	03/09/16	1417	1550486	2
9034_SULFIDE: COMMON "As Received"											
SULFIDE	U	1000	1000	2500	ug/L		SXC5	03/15/16	1403	1552181	3

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010C Distillation	SW846 9010C Prep	AXH3	03/15/16	1003	1550960

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	9012_CYANIDE	
2	2320_ALKALINITY	
3	SW846 9030B/9034	

Notes:

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 31, 2016

Company : CH2MHill Plateau Remediation Company
 Address : MSIN R3-50 CHPRC
 PO Box 1600
 Richland, Washington 99352
 Contact: Mr. Scot Fitzgerald
 Project: CHPRC SAF W16-003

Client Sample ID: B34B80 Project: CPRCOW16003
 Sample ID: 392828010 Client ID: CPRC001
 Matrix: WATER
 Collect Date: 08-MAR-16 08:32
 Receive Date: 09-MAR-16
 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "As Received"											
Cyanide, Total	U	1.67	1.67	5.00	ug/L	1	AXH3	03/15/16	1030	1550961	1
Titration and Ion Analysis											
2320_ALKALINITY: COMMON (Alkalinity only) "As Received"											
Alkalinity, Total as CaCO3	C	83500	725	1000	ug/L		AMB	03/09/16	1419	1550486	2
9034_SULFIDE: COMMON "As Received"											
SULFIDE	U	1000	1000	2500	ug/L		SXC5	03/15/16	1406	1552181	3

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010C Distillation	SW846 9010C Prep	AXH3	03/15/16	1003	1550960

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	9012_CYANIDE	
2	2320_ALKALINITY	
3	SW846 9030B/9034	

Notes:

Quality Control Summary

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: March 31, 2016

Page 1 of 2

CH2M Hill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Contact: Mr. Scot Fitzgerald

Workorder: 392828

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time	
Flow Injection Analysis												
Batch	1550961											
QC1203504880	392828001	DUP										
Cyanide, Total		U	1.67	U	1.67	ug/L	N/A		AXH3	03/15/16	10:18	
QC1203504879	LCS											
Cyanide, Total	50.0				49.6	ug/L	99.2	(80%-120%)		03/15/16	10:14	
QC1203504878	MB											
Cyanide, Total			U		1.67	ug/L				03/15/16	10:13	
QC1203504881	392828001	MS										
Cyanide, Total	100	U	1.67		101	ug/L	101	(75%-125%)		03/15/16	10:19	
Titration and Ion Analysis												
Batch	1550486											
QC1203503791	392621003	DUP										
Alkalinity, Total as CaCO3		C	99700		100000	ug/L	0.522	(0%-20%)	AMB	03/09/16	11:02	
QC1203503790	LCS											
Alkalinity, Total as CaCO3	50000				52700	ug/L	105	(80%-120%)		03/09/16	10:58	
QC1203503789	MB											
Alkalinity, Total as CaCO3					1040	ug/L				03/09/16	10:56	
Batch	1552181											
QC1203508114	LCS											
SULFIDE	10000				9890	ug/L	98.9	(68%-115%)	SXC5	03/15/16	13:53	
QC1203508115	LCSD											
SULFIDE	10000				9890	ug/L	5.9	98.9	(0%-30%)		03/15/16	13:55
QC1203508113	MB											
SULFIDE			U		1000	ug/L				03/15/16	13:53	

Notes:

The Qualifiers in this report are defined as follows:

- < Sample is below the EPA guidance level for Reactive Releasable Cyanide and/or Reactive Releasable Sulfide
- > Result greater than quantifiable range or greater than upper limit of the analysis range
- B The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).
- C Target analyte was detected in the sample and the associated blank. The associated blank concentration is >= EQL or is > 5% of the measured

